

United States Department of Agriculture

FIELD DIARY

Utah

July 15 - Oct. 19.
1914.

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James Wilson

Secretary of Agriculture.

7/15

Coot 4 days old. top of head almost bare except for two lines of black hairs in the central region. tip of bill black egg tooth present white, rest of bill rather dull waxy red lighter toward tip. claw present on thumb. frontal plate developed with Kew Kew Kew fat large strong well lobed dusky tinged with lighter

- Annet
- Blacknecked Stilt KK KK (test. c.)
- Great Blue Heron quack quack.
- Yellowlegs.
- Coot (Kp)
- Cinnamon Teal
- Marsh Wren song sharp
- Yellow head
- Odor
- Snails floating with foot exposed to surface film. Would not sink to the sand on bottom.
- Calif. Gull
- Red-head
- Tern Kah Kah. team
- Night Heron
- Killdeer
- Pelican

Externally nothing noted

July 15
Gadwall Marbled american

Found at edge of channel
where it had climbed up onto the
raised edge of marsh. Was alert
but quite helpless. eyes normal
plumage worn. Had some use
of wings but used them mainly
to help along. could not support
weight of body on feet when I
held it in one hand & placed
the feet in the other trying to balance
it. Tail muscles functional.
in moving pushed itself along
with feet by breast flapping
wings. Could hold head up &
move it but muscles were
weak. anus a mass of maggots
that beat violently when disturbed.
When eyelids were loosened were
found to be partly paralyzed
with watery exudate. Metabolizing
membrane could be brought
forward half an inch & equal
lower eyelids brought up half
way but not farther.

- molting all over. old plumage
very worn. fat on breast pterygoid
protruding, greasy. feathers of belly
foul from anus.

cropaceous gland rather dry.
no oil in crop. On cross section
flesh with an orange yellow oleaginous
substance. Kidneys dry appearing
internally galled in color.

3 areas, like lumens of ^{intestine}
In this bird I noticed
that the bulk of the trachea
lay to the left & the right
side trachea was weak at
but the left one after leaving
the trachea was attached firmly
to the bulbosity and was spread
out, broad & enlarged. The whole
left muscle was noticeably
stronger than the right.

Liver very red shiny, somewhat
dry.

Much fat in body cavity
on heart, stomach & about
anal region.

Rectal shrunk
Cloaca filled with a green ^{white}
fluid which showed some
lymph like matter.

Small bladder large distended
very dark green.

Spleen small triangular
rather unhealthy blotched red in
appearance.

Beak only almost black.
Stomach was not empty contained
much sand, seeds of malvaceae
& algae. Sand present in faeces
matter present whole length
of intestine. frothy & full of bubbles
in small intestine for first
part latterly a mucus in
the lumen.

Seal.

July 15

Found in water at edge of
bank unable to ascend 3 with 1. ¹ ² ³
diarrhoea greenish in color with
nitrogenous matter present encased
could spread wings laterally a
little but had no control over them
when caught on a wood or twig
could only struggle. Was unable
to descend them. It could not support
body ~~upright~~ but propped
slightly & painfully by stretching
forward in breast. Upper & lower
slide ground to eyeball the lower
one half covering the ball.

Could show eyeball &
melting membrane functional.
When held in the air spread feet
rapidly but had little strength
in them. neck muscles strong

July 16

- Barn Swallow
- Dove
- Quail
- Tit
- Savannah Sparrow
- Cuckoo
- Killdeer
- Crow
- Yellowhead
- Osprey
- Red-tailed Hawk
- Mallard Duck
- Canada Goose
- Kingbird
- Black Duck
- Snowy Plover
- W. Yellowthroat
- W. Sandpiper
- Plover
- L. J. Redpoll
- Canada Goose
- Cliff Swallow
- Mar. Americana
- Coot
- Great Blue Heron
- Duck
- Red-tailed Hawk
- Pelican
- W. Yellowthroat
- Solitary Sandpiper
- Magpie
- Song Sparrow
- Cormorant
- Redhead
- Calif Gull

July 16

- Cowbird
- Solitary Sandpiper
- Magpie
- Empidonax
- Wm Yellowthroat
- English Sparrow
- Song Sparrow
- Killdeer
- Yellow head
- Bank Swallow
- Barn "
- Night Heron
- Great Blue " *than flying toward me*
- Dove
- Pine Siskin
- Marsh Wren *2 stirred nest*
- Cinnamon Teal
- Black Tern
- Say's Sparrow
- Gull
- Red-wing
- Tern
- Mallard
- Plover
- Lesser Yellowlegs
- Avocet & Kik Kik Kik Kik
- Maraca
- Redhead *quack quack quack*
- Coot
- Calif Gull
- Western Gull
- Greater Yellowlegs
- Cinnamon
- Snowy Plover

- Cliff Swallow
- Pintail
- Virginia rail
- Cormorant
- Willet

July 17.

young coot. snuck along edge
of boat. picked at man when caught
when a hand was extended to
them in boat struck at it
with one foot & if attack was
renewed jab on back kicking vigorously
& pecking. note tee tee
other attempted to escape by running.

mint birds.

1 coot's nest - 5 eggs in open 30 feet
from any cover.

July 18

- Barn Swallow 8559-60-61
- Willet
- Yellowhead
- Chimney Soot 1 nest
- Sitt
- ibis
- Night Heron
- Savannah Sparrow
- Black Tern
- Mallard
- Green-winged Teal
- Hairy Tern
- Avocet
- Gull
- Marsh Wren
- Song Sparrow
- Great Blue "
- Canada goose
- Coot yg. walk ashore. 3 added
- Red-tailed Gull
- Pintail
- Pelican
- Western Sandpiper
- Marbled Godwit & quail quail
- Killdeer
- Ruddy - tail in air diving
- Lesser yellowlegs
- Black-headed Gull
- Greater yellowlegs
- Cormorant
- Widgeon
- Bullock Oriole
- Solitary Sandpiper

- July 19
- Long tailed Chickadee
 - Song Sparrow
 - Maryland Yellowthroat.
 - Crow
 - Tit
 - Coot
 - Gull
 - Killdeer
 - W. Sandpiper
 - Savanna Sparrow
 - Phalarope
 - Kingfisher
 - Empidonax
 - Barn Swallow
 - Magpie
 - Dove
 - Cinnamon Teal
 - Yellowthroat
 - Virginia Rail
 - Forster Tern
 - Calif Gull.
 - Great Blue Heron
 - Night Heron

27-54-1-1

20-1-1-5

38

27

65

- July 20.
- Great Blue Heron
 - Night Heron
 - Cinnamon Teal
 - Killdeer
 - Coot parents with young
 - Spotted Sandpiper
 - Redwing
 - Kingfisher
 - Dove
 - Crow
 - Calif Gull
 - Yellowthroat
 - Barn Swallow
 - Dove
 - Stills 2 yg in nest.
 - Red-head. 4 yg in nest.
 - Forster Tern
 - Magpie
 - Savanna Sparrow
 - Kingfisher
 - Killdeer
 - Red-shafted Flicker
 - Black Tern
 - Shorebird & young
 - Ring-billed Gull
 - Pintail
 - Mallard. 1 on bank.
 - Marsh Hawk
 - Red-wings
 - Brown Blackbird
 - Sharp-shinned Hawk
 - Snowy Hawk
 - Song Sparrow

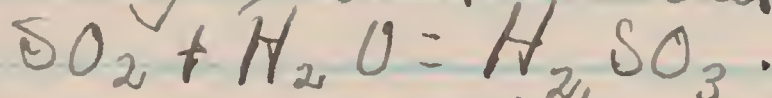
- Willet
 - Rough-winged Swallow
 - Lazuli Bunting

Yellow back Crows
 Monarch
 Mourning Dove

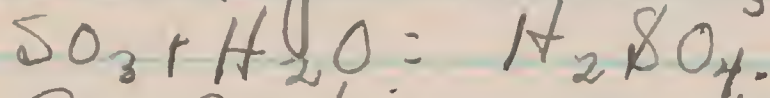
Kahlenberg. Outlines of Chemistry - 1911

p. 120.

acids reddens blue litmus
 When sulphur burns in oxygen
 sulphur dioxide results SO_2 .
 uniting with water



By passing sulphur dioxide
 mixed with oxygen over red-hot
 platinum particles SO_3 is formed.



An acid is a compound containing
 hydrogen which may be replaced
 by a metal, the product formed
 being a salt.

Commonly they have a sour taste
 & reddens blue litmus. There are
 acids so weak however that
 they do none of these things.

SO_3 is ~~an~~ the oxide of S .
 is known as the anhydride
 of H_2SO_4 .

Bases turn red litmus blue
 and when treated with an
 acid become neutral. do not
 affect litmus.

Wace Kahlenberg.

Allen's Commercial Organic Analysis
1913 p. 341-353

Plomains are bases produced in the putrefactive decomposition of animal & vegetable tissues. In nearly all cases are formed by bacterial action in the breaking down of proteins into peptones & by further degradation into amino acids and finally into ammonia, carbon dioxide, methane etc.

Some plomains are highly toxic but in general the bases formed by putrefaction are not poisonous. Toxic effects are not destroyed by cooking.

Symptoms of poisoning usually commence with nausea, vomiting, pain in the abdominal region & diarrhoea. Nervous symptoms are faintness, muscular weakness, prostration & sometimes spasms; followed by great weakness & thirst.

Convulsions, clonic spasms, dilatation of pupil, disturbance of vision, with drowsiness & occasionally coma are observed also.

Post mortem appearances are similar to those produced by mineral volatile poisons.

Symptoms of plomine poisoning rarely become developed in less than 6 to 8 hours & in some cases

are much longer delayed.

Typhotoxin $C_7H_{17}O_2N$ produced by the typhus bacillus is a strong base of alkaline reaction & possesses poisonous properties.

Arsenical plomains come from the putrefying corpses of animals poisoned by arsenic & highly toxic.

Flint - Handbook of Physiology
Macmillan 1905

Bile contains Sodium united
with two acids - glycocholic
& taurocholic acids. The biliary
salts of them are probably then
concerned in digestion.

In fasting animals the
gall bladder is distended with
bile, but in animals opened
soon after feeding it is nearly
always empty. Actual secretion
of the bile, however, is also
influenced by digestion.

One of uses ascribed to bile
is that of stimulating peristaltic
movements of small intestine
and of promoting putrefaction in
the intestinal contents & the
abnormal developments of gas.

In cases of biliary fistula
there is great loss of weight.

Gases found in the intestine
have an important mechanical
office. Keep the canal distended
to the proper degree support the
walls of the intestine & support
constriction.

Liver is abundantly supplied
with nerves both cerebral spinal
& sympathetic.

July 22

- Meadowlark
- Kingbird
- English Sparrow
- Barn Swallow
- Bank Swallow
- Forster Tern
- Killdeer
- Stilt
- Avocet
- Willet
- W. Sandpiper
- Redwing
- Marsh Wren
- Song Sparrow
- Red-shafted Flicker
- Calif. Gull
- Red-wing
- Yellowhead
- Night heron
- Pintail
- Cinnamon Teal
- Shoveler
- Coot
- Virginia rail
- Greater Yellowlegs
- Cormorant

July 23

- Bobolink
- English Sparrow
- Bullock Oriole
- Yellow Warbler
- Kingbird
- Robin
- Goldfinch
- Mourning Dove
- Willow
- Lazuli Bunting
- Spotted Sandpiper
- Magpie
- Avocet
- Night heron
- Red-winged Swallow
- Great Blue Heron
- Redwing
- Meadowlark
- Forster Tern
- Cormorant
- Coot
- Barn Swallow
- Stilt
- Buzzard
- Pelican temp 98.2
- Cinnamon Teal
- Mallard
- Redhead
- Pied-billed grebe
- Black Tern
- Cowbird
- California Gull
- Yellow-head
- Red-shafted Flicker
- Western Sandpiper

though in pain wings were held
 closed to body & could kick vigorously
 with feet. excrement thick sticky
 white with slight greenish
 tinge. almost dead began
 to struggle convulsively & though
 finally died a skat in the end
 was almost dead by the time
 I had finished these notes.

July 25

Gull. - unable to support weight
 of body on feet. could flap
 vigorously but could not raise
 itself. wings held loose from
 sides. bird struggled to
 escape. various.
 anal temp 106.8° and struggling

Pintail

in water could not hold head up
 could flap wings a little but
 helpless. anus closed. Membrana
 nictitans not functional. head
 slight control of legs. eyes
 could move eyeball but could not
 stir head. anal temp 100.5°
 water turned red at this stage.

July 25

- Empidonax swainsoni
- Marsh Wren
- Mangrove
- Song Sparrow
- Barn Swallow
- Yellowhead egg 107.2°
- Gull
- Gull
- Yellowthroat
- Cinnamon Teal
- Killdeer
- Calif Gull 2 dead
- Great Blue Heron
- Night Heron 4 rounded light blue most deep
- also 105.5° nest platform swales 1 1/2 feet high
- Avocet
- Greater Green Heron
- Pintail
- Coot
- Snowy Plover 103.6°
- Woodpecker
- Limosa fescua Kar ex.
- Mallard
- Redwing
- Common Grunt
- Redhead Broad wing
- Pelican
- Lesser Sandpiper
- Green-winged Teal
- Wn. Sandpiper
- Lesser Yellowlegs
- Black Tern
- Phalarope
- Ring-billed Gull 1 dead

- July 26
- Kingfisher
 - Wilson Snipe
 - Kingbird
 - Yellow Warbler
 - Spotted Sandpiper
 - Coot
 - Night Heron
 - Cormorant
 - Dove
 - Song Sparrow
 - Savannah
 - Marsh Wren
 - Quail
 - Bittern
 - Yellowhead
 - Red Virginia
 - Killdeer
 - Cinnamon Teal
 - Tree Swallow
 - English Sparrow
 - Maryland Yellowthroat
 - Tree Swallow
 - Dove

2470 Wm. 2
2471 Wm. 2

- July 27
- Kingfisher
 - Yellow Warbler
 - Song Sparrow
 - English Sparrow
 - Caspian Tern
 - Kingbird
 - Night Heron
 - Cinnamon Teal
 - English Sparrow
 - Tree Swallow
 - Maryland Yellowthroat
 - Foxglove
 - Spotted Sandpiper
 - Bittern
 - Cormorant
 - Great Blue Heron
 - Blue Jay
 - Yellowhead
 - Marsh Wren
 - Quail
 - Calif. gull
 - Black Duck
 - Raven
 - Coot
 - Mourning Dove
 - Meadowlark
 - Killdeer
 - Dove
 - Brewer's Blackbird
 - Reddy Blackbird
 - Redwing
 - Snowy Heron
 - Lesser Yellowlegs
 - Savannah Sparrow
 - Willet
 - Wilson's Snipe
 - Woodcock
 - Mallard
 - Pintail
 - Bell's Black Duck
 - Ring-necked Duck
 - Western Gull
 - Canada Goose
 - Red-billed Gull
 - Black-headed Grosbeak
 - Lazuli Bunting
 - W. Kingbird
 - Robin
- Sept. 18 1893

- July 24
- | | |
|---------------------------|----------------------|
| - Meadowlark | - Swift |
| - American Crow | - House Wren |
| - Brown | - Catbird |
| - Blue Vireo | - Chickadee |
| - Barn Swallow | - W. G. T. Titmouse |
| - Robin | |
| - Flicker | - Sparrowbill |
| - Kingbird | - Snowy Plover |
| - W. G. T. Titmouse | - Least Sandpiper |
| - Bank Swallow | - Solitary Sandpiper |
| - Black Tern | - Wilson Snipe |
| - Forster | |
| - Marsh Wren | |
| - Mallard | |
| - Coot | |
| - Tring | |
| - Grey Blue Heron | |
| - Great Heron | |
| - Ruddy Duck | |
| - Redwing | |
| - Yellowthroat | |
| - Goldfinch | |
| - Yellowlegs | |
| - Killdeer | |
| - Red-billed Grebe | |
| - Red-head | |
| - Song Sparrow | |
| - Indigo Bunting | |
| - Great Green Gnatcatcher | |
| - Evening Grosbeak | |
| - P. Martin | |
| - Spotted Sandpiper | |
| - Yellowthroat | |

(57) IIII
IIIIII

Water in main channel near lot
shows abundant faint alkaline reaction
blue litmus not affected.
Water below sluice gate alkaline
reaction.
Alkali reaction at dam.
Water on flats beyond no. 5, on
rich deep strongly alkaline
flats where slaked lime strongly
alkaline. Found abundant

Dead Pontant 2 large clams
lying on branches of water at edge
of grass. water alkaline and
litmus changed to red.

Clonal eggs for five inches
of water. Alkaline. eggs jelly
from water. Eggs least optically
is analyzed. Type of egg not
seen. 100 and 100 of put. but
could not count. Increased oil
not observed.

7 m of 20 ft. water. when the
ground was drying & cracking
to water on ground. Some
distinctly alkaline.

Among the insects found. One
could not change up right. Another
new one but could not fly. One
type of them legal difficult to
standing. One blackish

- Grandchild 13 1/2 - 3 ft 6 in
 - Grandchild 13 1/2 - 3 ft 6 in

along with its little all were

~~101.2 could not stand or
 walk~~

101.2 a little stronger
 could barely stand & could not
 walk could rise on legs by means
 of wings & then would stand & fall
 forward.

Temp 104 could stand & run
 but was probably very fat & flapped
 wings but could not fly.

103.8 could not support body
 on legs. It had used up wings
 could stand then up to middle
 of body.

103.6 could stand & run
 but was underweight.

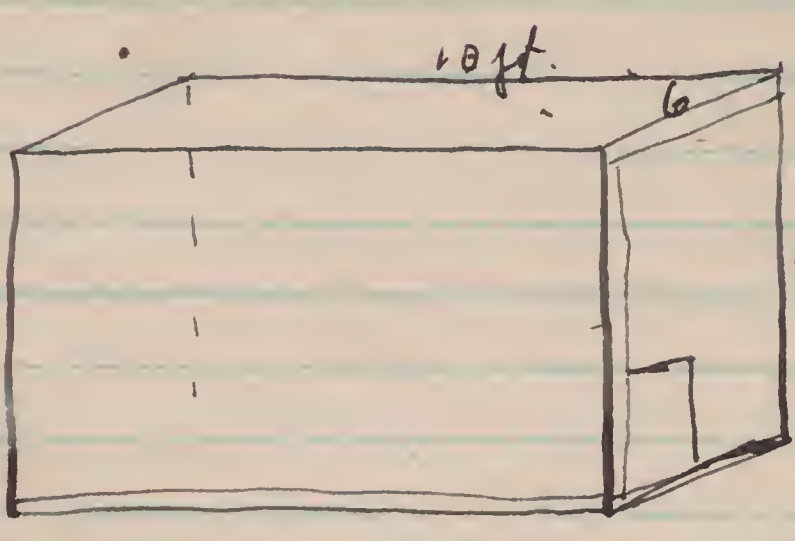
7 ml black pure alkaline
 much C.H.₄

101.2 could not stand or
 walk.

103.8 could barely balance
 on legs & then fell on back. wings
 quite strong.

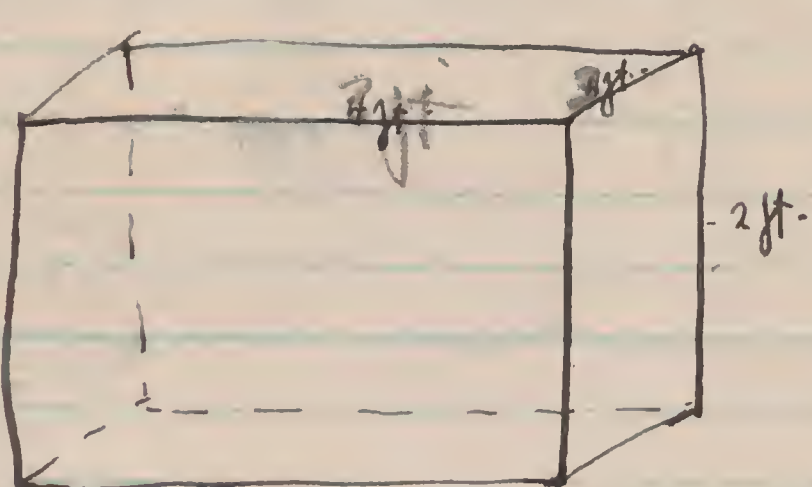
101.4 legs helpless wings
 quite strong.

102.4 duck could barely hold
 up head.



12
 32

4 uprights 4 ft long. } - 3 2x4 12
 3 full length 10 ft } 4 3- 2x4 10
 3 cross length 4 ft.
 2 piece 1x4 x 12 ft.



- 1 2x4 10 ft -
 - 2 1x4 12

32 ft - 4 ft -
 10 ft - 6 ft -
 40 ft - 2 ft -
 9 ft - 3 ft -

- July 30
- Solitary Long-tailed
 - Meadowlark
 - Barn Swallow
 - English Sparrow
 - Savannah "
 - Sage Thrasher
 - W. Kingbird
 - Kingbird
 - Brewer Sparrow
 - Robin
 - Cowbird
 - Vesper Sparrow
 - Goldfinch
 - Lazuli Hummingbird
 - Song Sparrow
 - Yellow Warbler
 - Flicker
 - Brewer Blackbird
 - Grackle
 - Mourning Dove
 - Lark Sparrow

4 1 + 4 - 12 ft.

4 2 x 4 - 10 -

2 2 x 4 - 12

July 31

- Coot
- Woodcock ~~1094~~ X
- Yellowthroat X
- Greater Tern
- Cinnamon Teal
- Marsh Wren
- Stilt
- Great Blue Heron
- Kingbird
- Canada Goose 12
- Barn Swallow
- Bank Swallow
- Solitary Sandpiper 11
- Pintail
- Black Tern
- Redhead
- Snowy Plover
- Mallard
- Spoonbill 4-2
- Greater Yellowlegs
- Lesser Yellowlegs
- Baldpate
- Killdeer
- Coot
- Wilt
- WC Sandpiper
- Brown Sphingus 1094

water in puddle alkaline

- English Sparrow
- Yellowthroat
- Song Sparrow
- Redhead
- Great Blue Heron
- Lesser Yellowlegs
- Barn Swallow
- Ruddy Gg.
- Green-winged Teal
- Snowy Plover
- Cinnamon Teal
- Greater Yellowlegs
- Redhead
- Night Heron
- Mallet
- Wilson Snipe
- Marsh Wren
- Coot
- Redhead
- Great Blue Heron
- Lesser Yellowlegs
- Barn Swallow
- Ruddy Gg.
- Green-winged Teal
- Song Sparrow
- Maryland Yellowthroat
- Virginia Rail
- Solitary Sandpiper
- Spotted
- Horned Sandpiper
- Phalarope
- Shorebird
- Gull
- Pelican
- Cormorant

Some teal found dead at edge
of channel.

- 1 egg redhead & 1 egg Budy.

A dull mallard at edge of Channel
lay with head upturned on
deck. Could not raise it once
it fell. Youngs gazing rather
loosely at it. Could
barely know there was a bird.

anal temp. 110.2. faeces loose.
anus stained as above & removed
from water. parasites of blood &
Sphincter(?) cause of (obstruction)

Dead small and shallow water
on island

2 dead Panthers " "

dead conf in water

Mallard edge of lake. Able to
push along smoothly with just
pushed by wings. As I walk
started a row, swiftly away partly
on breast and temp ~~15.7~~ high from
exercising. 2

Pointail skeleton at end of
channel.

2. possible on the channel. See
to show, possibly, but could not
Gardal time 1 1/2, 2

Aug. 2

- English Sparrow
- Song Sparrow 13
- Barn Swallow
- Foster Tern
- Yellowhead
- Greater Yellowlegs
- Killdeer
- Night Heron
- Great Blue
- Bank Swallow Martin
- Magpie
- Kingbird
- Meadowlark
- Brewer Sparrow
- Empidonax 109.0
- Hummer
- Sage Thrasher 109.2
- West. Vesper Sparrow
- Horned Lark
- Long eared Owl

Aug. 3

- | | |
|--------------------------------|--------------------|
| - Song Sparrow | - W. Kingbird |
| - Stilt | - Kingbird |
| - Avocet | - Bank Swallow |
| - Killdeer | - Cliff |
| - Yellowhead | - Roughwinged |
| - Barn Swallow | |
| - English Sparrow 8 per. | |
| - Song Sparrow 15-3-12-50 | |
| - W. Sandpiper | - 7 Licks |
| - Greater Yellowlegs | - Sage Thrasher |
| - Jacksnipe | - Meadowlark |
| - Greater Yellowlegs | - Brewer Blackbird |
| - Lesser " | - Cowbird |
| - W. T. " | - Yellow Warbler |
| - Foster Tern | - Rock quail group |
| - Pintail 12 | |
| - Cinnamon Teal | |
| - Black Tern | |
| - Bank Swallow | |
| - Great Blue Heron | |
| - Night Heron | |
| - Cuckoo | |
| - Mallard | |
| - Sparrow | |
| - Spotted Sandpiper 108.1 nest | |
| - Marsh Wren | |
| - Godwit | |
| - Savannah Sparrow 110.0 | |
| - Phalarope | |
| - Canada Goose | |
| - Peewee | |
| - Calif Gull | |
| - Italy Sparrow | |
| - Crows | |

Contest when close, able to see
 and but 1099. Bird rather thin
 for the age.

10/24 evening
 slightly hard to capture close
 enough to see in good position of
 plumage. Breast thin
 2 small birds escaped
 1 Contest

Young cost half grown flying in
 water died last night
 egg cost and wing 1022
 wing claw present

August 5

- Barn Swallow
- Brown Blackbird
- Contest 1000
- Meadowlark
- Yellowhead
- Kingbird
- W. Kingbird
- Towhee
- Brown Sparrow
- English "
- Yellow Warbler
- Swainson Hawk
- Night Heron
- Great Blue Heron
- Mourning Dove
- Sage Thrasher
- Spooky Heron 19
- Killdeer
- Rough-winged Swallow
- Lesser Yellowlegs
- Marsh Wren
- Cinnamon Teal
- Pine Siskin
- Goldfinch
- Redstart
- Ruddy
- Marsh Hawk
- Glin 50
- Savanna Sparrow 100.7
- Forster Tern
- Gull
- Grebe
- Pelican

- Aug 1
- Allis
 - Yellowhead
 - Killdeer
 - River Swallow - 105.6
 - Cliff
 - Night Hawk
 - Cat
 - Dove
 - Wilson Sparrow
 - Porzana carolina 105.2
 - Rallus virginianus 105.6 107.8
 - Marsh Wren
 - Eastern Tanager
 - Mallard 105.6
 - Common Teal 106.6
 - Green-winged Teal
 - Red-head
 - Black-bird
 - Song Sparrow
 - Song Sparrow
 - Greater Yellowlegs
 - Phalarope
 - Greater Yellowlegs
 - Pectoral Sandpiper
 - W. Sandpiper 108.6

Aug 2

Green-winged Teal - one in channel.
 Did not rise but would not.
 Swan & dove - thin.
 Mud a thin grey color, much
 limy material. water slightly
 alkaline.

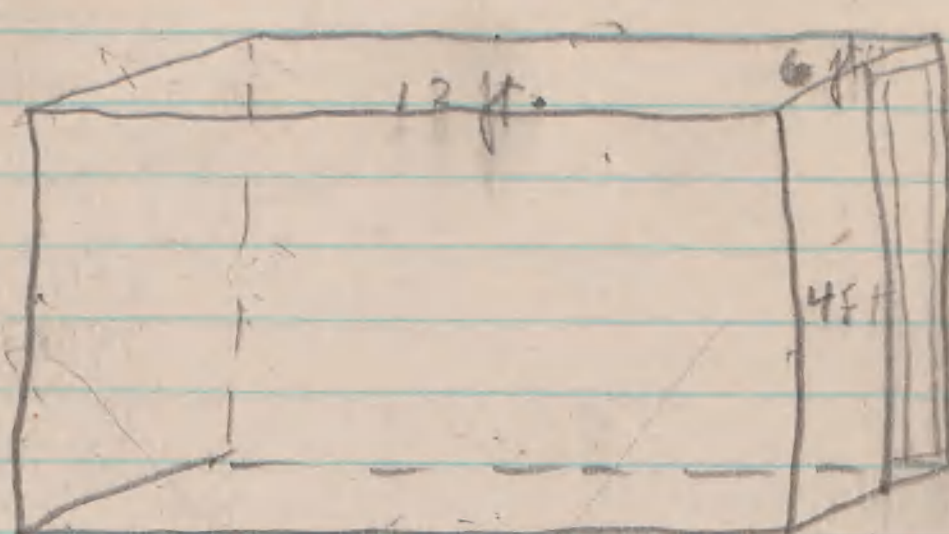
- Buzzard
- Green-winged Teal (105.0)
- Common "
- Mallard " dead
- Pintail "
- Savanna Sparrow
- Marsh Wren
- Horned Lark Known as Prairie Martin
- C. Cormorant " " River Crow
- Allis
- Snowy Heron (102.2) - Sap Punk
- Great Blue Heron - Redhead
- Night Heron - Merganser
- Brewer Blackbird - English Sparrow
- Raven
- Meadowlark
- Spotted Sandpiper
- W. "
- Killdeer
- Song-billed Curlew
- Godwit
- Red wing
- Yellowhead
- Solitary Sandpiper
- Crow
- Bell

Aug. 8
 Chipping Sparrow
 Wilson Sparrow
 - Ellis
 Arvert (lawyer)

2510 Vermivora ♂ ad.
 11 Vermivora ♂ ad.
 12 " " " " " "
 13 Cyanocitta ♂ ad.
 14 " " " " " "

- Aug 9
- Sage Thrasher
 - Robin
 - Flicker
 - Mourning Dove
 - Lazuli Bunting
 - Sharp-shinned Hawk. nest 1/5 of 1/2 in
 - Mc Gowan's Warbler - white ruffed
 - Hummingbird - sides white underneath
 - Traill's Flycatcher
 - Long-tailed Jay Feb 1073, Jan 1074
 - Hermit Thrush
 - Fox Sparrow
 - Mountain Towhee
 - W. Warbling Vireo ad 1074
 - W. House Wren
 - " Sparrowhawk
 - " Redtail
 - Clark's Crow
 - Pine Siskin
 - Dusky Grosbeak
 - Virginia Warbler Feb 1074
 - Wood Thrush
 - Mourning Dove
 - Nuttall's Localis
 - long-tailed Chukar

John opening the Rocky Mtn Jay at which
 that the right cocoon was much
 longer than the left



3

X8-2x4x12

4 1x4x12

36 lin ft. 4 ft 1" mesh wire

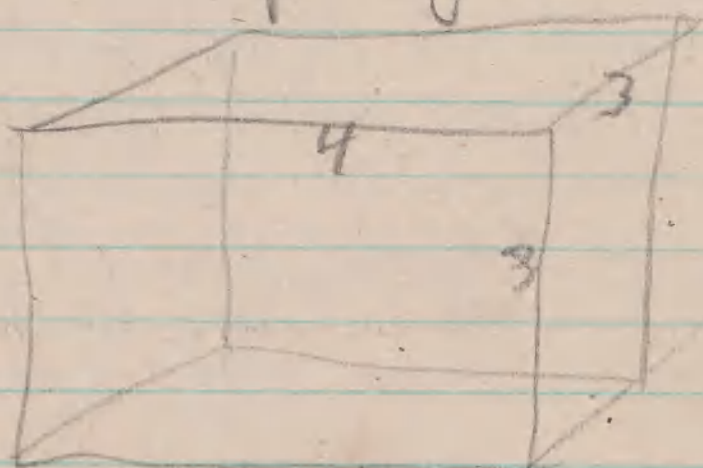
12 " " 6 ft. 1" "

1 lb staples small.

1 lb 16 d.

1 lb 6 d.

1 pr 3" strap hinges.



1-2x4-14

1-2x4-12

2-1x4-12

2 - 2x4x12

14 ft. 3 ft wire.

1 2x4x16

Aug 10

- Sparrowhawk Utah Hot Springs

- Magpie

- Eng Sparrow

- Red-wing.

- Spotted Sandpiper.

- Night Heron

- Western Grebe.

- Lazuli Bunting

- Yellowthroat.

- Yellow Warbler.

- Swainson Hawk. Roughly.

- Crow broken wing 'J'.

- Lesser Yellowlegs.

- Coot

- Forster Tern

- Killdeer

- Greater Yellowlegs.

- Marsh Hawk

- Widgeon

- Redhead.

- Barn Swallow.

- Rough-winged Swallow.

- Black Duck.

- Mallard.

- Dove

- Great Blue Heron.

- Pintail.

- Meadowlark.

- Cinnamon Teal & 4

- Wm Kingbird

- Calif gull.

- Pigeon Hawk.

- Ruddy Duck.

- Kingfisher.

- Canada Goose

- Tree Swallow

- Marsh Wren

- Tit.

Aug 11

- Canada goose
- Marsh Wren
- Barn Swallow
- Song Sparrow
- Marsh Wren
- Yellow Warbler
- Common
- Solitary Sandpiper
- Savannah Sparrow
- Yellowthroat
- Pintail 104.1 104.5
- Goldeneye
- Virginia Rail
- Wilson Snipe protuberant pink nose
- Ruddy Duck 104.5
- Common Seal
- Green winged Seal
- Freshwater
- Red-tailed Gull
- Mallard Duck
- Grebe
- Loon
- Long-billed
- Black
- Green-bill
- Raven
- Pelican
- W. S. Gull
- Willet
- Great Blue Heron
- Godwit

Mallard could not dive. Could not get up. Head beneath water. Held bill with point resting on ground. anal temp 70.5
 Two Green-winged Seal with tail eaten. Green by Raven 102.6 97°
 one head and arms separated. Birds could swim but were helpless on land.

~~3 young of the seal II~~
~~1 Green-winged Seal~~
 1 Green-winged Seal into grass. Pelphs asus protruded, excrement almost entirely white & green. Arms water some signs of blood. Temp in back to rectum. Green explicit signs of weakness.
 Pintail 111 111 111
 111 111
 111 111

one almost helpless.
 Greening 111
 Mallard crawled out on land helpless.
 A number of dead pintail & greenings still in rigor mortis.
 Pintail 102.9 Pelphs asus
 Greening 102.8 Pelphs asus
 protruded somewhat. Vessels inflamed. Excrement contained white, red & water a small amount of green & was like this.

Healthy Pintail 109.7

Aug 12
 Green-winged Teal IIII
 B. Tit IIII
 Avocet II
 Sp. Towhee I
 Sp. Towhee III
 Dove I

- Aug 12
- Barn Swallow
 - Raven 109.6
 - Towhee Jun 105.1
 - Marsh Wren
 - Canada Goose
 - Night Heron
 - Yellowthroat
 - Savannah Sparrow
 - Empidonax
 - C. Gull
 - Sp. Towhee 75 young Squab fighting
 - Towhee
 - Song Sparrow
 - Great Blue Heron
 - Spotted Sandpiper
 - Yellow Warbler
 - Meepie
 - Sp. Towhee
 - Barn Swallow
 - Virginia Rail 105.5
 - Mallard
 - W. Sandpiper
 - Red-tailed Hawk
 - Pelican
 - Killdeer
 - C. Wren
 - Towhee
 - Towhee
 - Towhee 104.6
 - Black Tern 107.1 107.6 107.3
 - Wilson Bird
 - Duck Hawk

Aug. 13

- Raven
- Bullock Oriole
- Song Sparrow
- Yellow Warbler
- Yellow Warbler
- Marsh Wren
- Barn Swallow
- Canada Goose
- Night Hawk
- House Wren
- Cormorant
- P. Owl
- Red Winged Blackbird
- Chimney Swift
- House Wren
- Red
- Great Blue Heron
- Virginia Rail across river
- Mallard
- Green-winged Teal 8 ~~1096~~
- Gull
- Dove
- Ring-billed Gull
- P. Owl
- Woodpecker
- Green Yellowlegs
- W. Sandpiper
- Sparrow-bill male with bright yellow feet
- Godwit
- Phalarope

Quinn could swim but not stand. Left leg stronger than right - spine slightly loose at sides and temp. 122.5 and opening somewhat enlarged with water discharge being irritative. Another note slightly weaker and temp. 122.5. Left leg slightly stronger than right.

could barely resist them, wings
hung loose from sides. Head very weak
swayed to & fro with difficulty as
head was raised with each breath.
Lower eyelids covered over eyes &
eyes with "gravel" temp 101.5 + tent

Another 3 came somewhat ^{temp}
 distended slightly inflamed with
 watery feces thin with some
 small mucus. Wings loose at sides
 but could not fully support head.
 Another 3 slightly weaker than
 last small temp 113. some distended
 yellowed.

Reddish above in color.
\$ per mill. entirely half shere. head
lay on ground. wings loose from sides
could not get them up but anal leaf
12-13. wings detached & seen last.

Ring of Bull!

Calculus

8524

Protein NMI

Phryganidia

picked up the same cleaning back
 of us a bird, mostly with
 a side of a yellowish brown green
 greenish ~~10.7.6~~ and ~~10.8.4~~
 backs mostly with white under
 and ~~10.8.4~~

~~Cinnamon teal 10.8.4, could
 not detect any lower of sides
 could detect no difference in
 just eyes 10.8.4. female showing
 white under.~~

~~Green. 10.8.4. Hylas, down
 side, head, crown, back. Much
 white under on neck, practically
 white like teal with slight
 greenish tinge.~~

~~Pintail 10.8.4 could not support
 head, and top 10.8.4. in angle
 visible, faces greenish white.
 another 10.8.4. showed change
 10.8.4.~~

~~Yellowhead
 10.7.6 } ♀♀
 10.8.4 }
 10.8.4 }~~

Aug. 14

- Lesser yellowlegs
- Blk headed grosbeak
- Solitary Sandpiper
- Bank Swallow
- Yellow head ♂ female
- Night Heron ♂
- Foster Tern ♀♀
- Ibis
- Barn Swallow
- Yellow Warbler
- Virginia Rail
- Canvas back
- Pintail
- Green wing
- Duck
- Still
- Cinnamon Teal
- Kingbird
- Meadowlark
- Thrush
- Magpie
- Red Swallow

Aug 15

- Yellow Warbler
- Solitary Sandpiper
- Cowbird
- Yellowhead
- ~~Redhead~~
- Nighthawk
- Screech Owl
- Pigeon
- Greater Yellowlegs
- Lesser Yellowlegs
- Marsh Wren
- Redhead
- Barn Swallow
- Magpie
- House Finch
- Sparrow
- Alder
- Marsh Hawk
- Virginia Rail 105-6
- Killdeer
- Avocet
- Mallard
- Duck
- W. Sandpiper
- Forked Tail
- Phalarope
- Cinnamon Teal 105-8
- Black Turn
- Least Bittern
- Gull
- Osprey
- Pine Siskin

165 Greenwing 34-29-9-6-4-13-5-5
 22 Pintail 1-4-2-1-7-3-4
 9 Snipe 1-1-1-1-3
 5 Mallard 1-1-1-1-1
 1 Dove
 1 Avocet
 1 Redhead
 142

P. 15
Aug. 16

- Bobolink
- Blue Jay
- W. Gull
- C. Gull
- Killdeer
- Coot
- Stilt
- Pintail
- Green-wing
- Mallard
- Snowy Plover
- Great Blue
- Night "
- Ruddy duck.
- Canada goos.
- Abio
- Coot.

2 Seal
1 Pintail
2 Mallard
2 Avocet.

1 Head
1 Pintail
1 Seal } 16

released
1 Abio } 17

Aug. 17

- Barn Swallow
- Bank "
- Tree "
- Cedar
- Caspian Junco
- Towhee "
- Magpie
- Spotted Sandpiper
- Yellowhead
- Night Heron
- Bullock Oriole
- Yellow Warbler
- Green-winged Teal
- Pintail
- Marsh Hawk
- Say's Sparrow
- Redwing
- Flicker
- Kingbird
- English Sparrow
- Magpie
- Great Blue Heron
- Abio
- W. Gull - many
- Coot
- Stilt
- Killdeer
- Mallard
- Ruddy Duck
- Avocet
- Least Yellowlegs
- Snowy Plover
- Burrowing Owl

- Robin
- House Finch
- Song Sparrow
- Mourning Dove
- Yellow Warbler
- Ring-billed Gull

Sparrow 1
 Mallard 1
 Green-winged
 Heron 111
 Quail 111 11
 W. Sandpiper 1
 Tit 111

Aug 19

- Robin
- Song Sparrow
- Lark
- Meadowlark
- Yellow Warbler
- Mourning Dove
- Bay Breasted
- Barn Swallow
- Brown Blackbird
- Swainson Hawk
- Kingbird
- House Finch
- W. Wren, Sparrow
- W. Kingbird
- Sparrow Hawk
- House Sparrow
- Barn Swallow
- Green-winged Teal
- Mallard
- Tit
- Quail
- Tit
- Coot
- Great Blue Heron
- Lesser Yellowlegs
- Jacksnipe
- Virginia Rail
- Phalarope
- Ring-billed Gull
- Swamp Sparrow

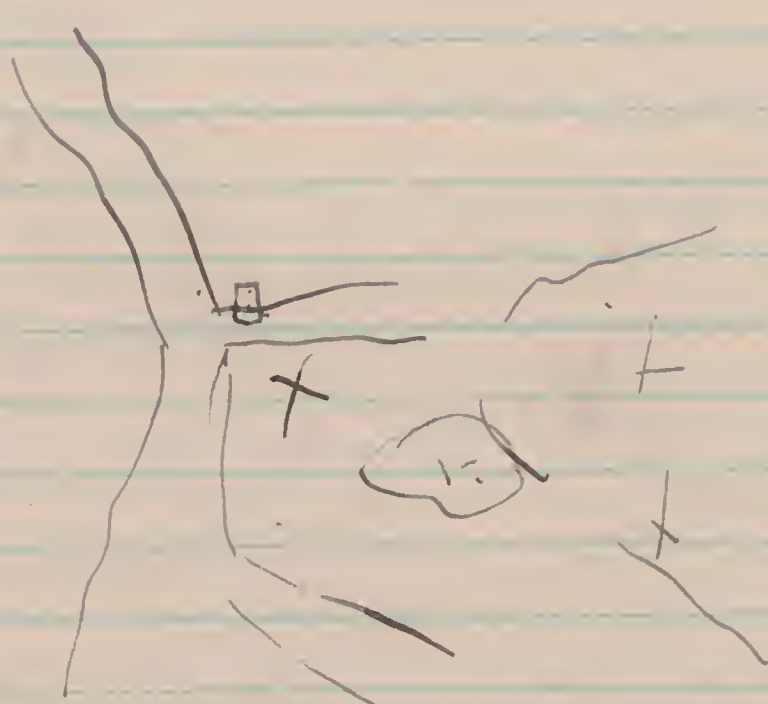
House Tree

- Sparrow
- Marsh Wren
- Hummer
- Forked Tree
- W. Sandpiper
- Redhead
- 2 Crows
- Spotted Sandpiper
- Cuckoo
- Canada Goose
- Swamp Sparrow
- Catbird
- Ring-billed Gull
- Tit
- Greater Yellowlegs
- Raven
- Least Sandpiper

tree tree

1007

Bottom mud and will bring
 much of the black of the large
 of sulphur sulphur
 (Chalk)
 The water
 poured many times and
 that must be getting sandy



Seal 13

Seal 14
 Paddy 1
 1st 1

- Bobolink
 - Solitary Sandpiper
 - jays
 - juncos
 - Wilson Snipe
 - Snowy Plover
 - yellow head
 - Barn Swallow
 - Dove
 - Lesser Yellowlegs
 - Goldfinch
 - Fox Sparrow
 - Mockingbird
 - Great Blue Heron
 - Bank Swallow
 - Marsh Wren
 - Green-winged Teal
 - Jack Snipe
 - Ring-necked Pheasant
 - Mallard
 - Ring-necked Pheasant
 - Cinnamon Teal
 - Coot
 - Ring-necked Pheasant
 - Ring-necked Pheasant
 - Lesser Yellowlegs
 - Plover
 - Quail
 - Greater Yellowlegs
 - Snowy Plover
 - Phalarope
 - Snowy Plover
 - Snowy Plover
- No Phalarope 1000, 1000
 1000, 1000
 Simpson Hawk
 Black Tern
 Say Phoebe
 Kingbird
 Kingbird
 White-throated Sparrow
 Song Sparrow
 Bishop
 Meadowlark
 Robin
 Brown Pelican
 7 hawks
- Seal 15
 1000, 1000, 1000, 1000

Cattle & horses kept in the
pasture as was also the
chickens from the ranch - at
Murray it was said to keep off
the sheep except under special
farming in this section had not
yet begun growing the season
knowingly • I feel they really

Mr. Whiel
Member of Bear River Duck Club
says that in October he has found
numbers of Shovs looking sick on the
flats at Spindrift Creek. There is the
only landbird affected to his knowledge
about here last year & on the
ground blue the water up in the

The flats north of the River soon
from the ship, ~~the~~ pintails come
on in great numbers. As just as
dark before they and I got
moving on these flooded flats
he found at least a hundred
poor heavy birds, helpless and
dying or dead.
The trouble always is worst
when the rains flood the low
up flats.

Aug 21.

- Song Sparrow
- Quail
- Junco Sparrow
- Brown Pelican
- Yellowhead
- Kingbird
- Oriole
- Wilson Phalarope
- Mourning Dove
- Meadowlark
- Barn Swallow
- Dove
- Mallard
- Killdeer
- Ring-necked Pheasant
- Great Blue Heron
- Snowy Plover
- Turkey
- Bank Swallow
- Ring-bill Gull
- Gull
- Sparrow
- Mourning Dove
- Sharp-shinned Hawk
- White-throat
- Sage Thrasher
- Robin
- Night Hawk
- Woodrat
- Yellow Warbler
- Night Heron
- Marsh Hawk
- Phalarope
- Magpie

W.O. Belnap

R. 7. 10 # 1

Hooper, Utah

Geo Quilliam lost 75 or 100
 found ducks in 1906 in slough
 Hooper. West Point.
 sick ducks by Messrs Stoddard
 & Simpson in 1914

Gull malady, starved
 filled with mud.
 slow malady
 mudmen
 Fern virus.

Utah-Lake County Co. 1898
 3 miles from Ogden

35288
 17.60
 19.60
 1.25
 95.00
 3520
 1760
 2207.00

John Stoddard
 Geo Simpson.

Aug 24

- Barn Swallow
- Marsh Wren ~~105.7 105.8~~
- Yellowhead
- Forked Tree ~~105.7 105.8~~
- Night Heron
- Bank Swallow
- Tree Swallow
- Goldfinch
- Canada Goose
- Solitary Sandpiper
- Lesser Yellowlegs
- Spotted Sandpiper
- Greater Yellowlegs
- Ring-necked Pheasant
- Mallard
- Avocet
- Stilt
- Kingbird
- Blue Jay ~~105.7~~
- Great Blue Heron
- White Ibis
- Savanna Sparrow
- Pintail
- Mallard
- Green-winged Teal
- Yellow-crowned Night Heron
- Cinnamon Teal
- Raven
- ~~Swallow~~
- Ibis

July 10 - 8
Mallard
Pintail

Aug 25

- Barn Swallow
- Bank "
- Tree Swallow
- Marsh Wren
- Yellowhead
- Bobolink
- Night Heron
- S. Heron
- Avocet
- Stilt
- Cinnamon
- Green-winged Teal
- Pintail
- Empidonax
- Raven
- Forked Tree
- Cinnamon Teal
- Black Teal
- Mallard
- Long Sparrow
- Great Blue Heron
- Lesser Yellowlegs
- Spotted Sandpiper
- Ibis
- Sparrow
- Kildeer
- Savanna Sparrow
- Pheasant

Green-wing 7/8

102.9

" 8/8

98.2

" 9/8

99.1

" 10/8

97.2

" 11/8

103.3

" 12/8

98.2

" 13/8

104.2

" 14/8

104

" 15/8

101.4

" 16/8

102.7

" 17/8

100.0

" 18/8

101.0

" 19/8

103.0

" 20/8

104.2

" 21/8

104.4

" 22/8

102.6

" 23/8

100.5

" 24/8

102.5

" 25/8

105.0

" 26/8

103.4

Salt

in

100.00

Dead in pen this morning

- 1 Shell
- 1 Avocet
- 2 Teal
- 1 Abis
- 1 Pintail

1 Pintail released + 1 Spoonbill.
2 Teal died from new lot

2 Teal died Aug 25

2 Teal - 1-1

2 Teal - 1-1

2 Teal - 2

Abis - 1

Avocet - 1

2 Teal died Aug 29

- Spoonbill 1
- Mallard 1
- Pintail 1
- Teal 2

Barry J. Walker
Bank
Iron
P.M.

- dead 29

- 2 Teal
- 1 Pintail
- 1 Mallard
- 1 Spermophile

- Night Hawk
- ~~Grass~~
- Green Yellowlegs
- Marsh Wren
- Cowbird
- Robin
- Dove
- Bobwhite
- Magpie
- Goldfinch
- Crows
- Starling

- *Spizella socialis*
- *Spizella socialis*
- *Spizella socialis*

- W. Sandpiper. better of double on "foot"
- Calif Gull
- Green-backed Teal
- P. (Pintail?)
- Mallard

- Goose
- Plover
- Cuckoo
- Tit
- Thrasher
- Snowy Plover
- Dove
- Least Sandpiper

- Pintail 11
 - Teal 22
 - Mallard 4
 Coot 2
 Curlew 1

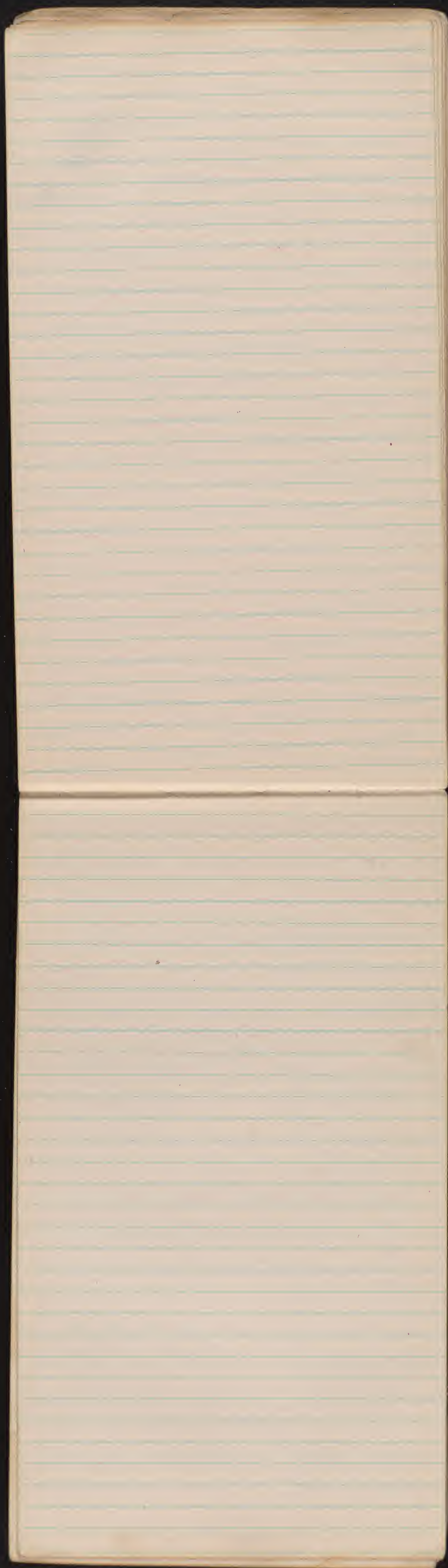
40
22

102
44
3

Aug 31

- Flicker
- Sparrowhawk
- Mourning Dove
- Robin
- ~~Star~~ Sparrow
- Meadowlark
- Barn Swallow
- Swainson Hawk
- Song Sparrow
- Killdeer
- Kingbird
- W. Kingbird
- Marsh Wren
- W. Vesper Sparrow
- Sparrow Sparrow
- Horned Lark

Went ground of New State
Lumber Co. & back.
Had some with infected
poor on 29.



- Sept 1
- | | |
|---------------------|------------------|
| - Green-winged Teal | - Meadowlark |
| - Mallard | - Song Sparrow |
| - Green-winged Teal | - No. 1 Sparrow |
| - Green-winged Teal | - Marsh Wren |
| - Green-winged Teal | - No. 2 Sparrow |
| - Green-winged Teal | - No. 3 Sparrow |
| - Green-winged Teal | - No. 4 Sparrow |
| - Green-winged Teal | - No. 5 Sparrow |
| - Green-winged Teal | - No. 6 Sparrow |
| - Green-winged Teal | - No. 7 Sparrow |
| - Green-winged Teal | - No. 8 Sparrow |
| - Green-winged Teal | - No. 9 Sparrow |
| - Green-winged Teal | - No. 10 Sparrow |
| - Green-winged Teal | - No. 11 Sparrow |
| - Green-winged Teal | - No. 12 Sparrow |
| - Green-winged Teal | - No. 13 Sparrow |
| - Green-winged Teal | - No. 14 Sparrow |
| - Green-winged Teal | - No. 15 Sparrow |
| - Green-winged Teal | - No. 16 Sparrow |
| - Green-winged Teal | - No. 17 Sparrow |
| - Green-winged Teal | - No. 18 Sparrow |
| - Green-winged Teal | - No. 19 Sparrow |
| - Green-winged Teal | - No. 20 Sparrow |
| - Green-winged Teal | - No. 21 Sparrow |
| - Green-winged Teal | - No. 22 Sparrow |
| - Green-winged Teal | - No. 23 Sparrow |
| - Green-winged Teal | - No. 24 Sparrow |
| - Green-winged Teal | - No. 25 Sparrow |
| - Green-winged Teal | - No. 26 Sparrow |
| - Green-winged Teal | - No. 27 Sparrow |
| - Green-winged Teal | - No. 28 Sparrow |
| - Green-winged Teal | - No. 29 Sparrow |
| - Green-winged Teal | - No. 30 Sparrow |
| - Green-winged Teal | - No. 31 Sparrow |
| - Green-winged Teal | - No. 32 Sparrow |
| - Green-winged Teal | - No. 33 Sparrow |
| - Green-winged Teal | - No. 34 Sparrow |
| - Green-winged Teal | - No. 35 Sparrow |
| - Green-winged Teal | - No. 36 Sparrow |
| - Green-winged Teal | - No. 37 Sparrow |
| - Green-winged Teal | - No. 38 Sparrow |
| - Green-winged Teal | - No. 39 Sparrow |
| - Green-winged Teal | - No. 40 Sparrow |
| - Green-winged Teal | - No. 41 Sparrow |
| - Green-winged Teal | - No. 42 Sparrow |
| - Green-winged Teal | - No. 43 Sparrow |
| - Green-winged Teal | - No. 44 Sparrow |
| - Green-winged Teal | - No. 45 Sparrow |
| - Green-winged Teal | - No. 46 Sparrow |
| - Green-winged Teal | - No. 47 Sparrow |
| - Green-winged Teal | - No. 48 Sparrow |
| - Green-winged Teal | - No. 49 Sparrow |
| - Green-winged Teal | - No. 50 Sparrow |

Brought in from Mallard Pools

Greenwing	14
Pintail	2
Shoveler	1

water higher than in 34
very muddy black appearing

No 7 Jordan River
No 8 Duck pond etc.

16 Shallow
11 deep

1d	8 oz. 1/2 pt.
2d	pt.
4d	pt.
40d	10 pt.
	320 to 10 gts.
	3.2 oz.
	3 oz. 4d.

#4 1 1/2 g MgCl₂ to 10 gts.
#3/H₂SO₄ 1 1/4 2 1/2 g to 10 gts.

~~Cherry Creek~~

Portrait shot affected
Carcass on Seal

~~Erymetes mawii stomach stones~~
~~collected in 1884~~

~~Term~~ 2547

Painted T
Blue T
Painted T
S. palmeri
Erasmia
P. arctica

2578

2549

Printail casea distended with
blood

Page 7

Verdugo ? 2550

Regulus ♂ 7202 2553

Manila Bm. 7203 2551

Falco 7204 2552

- Spoonbill ^{head} 3 yd 5

7/ cont

1900

Sept. 6

Sept. 7

1900

1222.

- 1 Cart

- 2nd

1 \$1000.00

— 8 —

19. *Butterfly*

Expo pen.

Leaf 2-1-1

Printed 1-1-1

Mallard 17/1

$$\begin{array}{r} 13 \text{ div } 2 \\ \underline{26} \\ 22 \end{array}$$

$$\begin{array}{r} 32 \text{ div } 5 \\ \underline{15} \\ 17 \end{array}$$

$$\begin{array}{r} 51 \\ 29 \\ \hline 129 \\ 16 \\ \hline 1133 \\ 60 \\ \hline \end{array}$$

- Sept 6
- Red-billed Gull
 - Virginia Warbler
 - Barn Swallow
 - Marsh Wren
 - Yellowthroat
 - Chickadee
 - House Wren
 - Sharp-shinned Hawk
 - Kingfisher
 - Pintail
 - Green-wing
 - Mallard
 - Crow
 - Redhead
 - Killdeer
 - Sill
 - Godwit
 - Avocet
 - Willet
 - W. Sandpiper
 - Coot
 - Forster Tern
 - Black
 - Pelican
 - Calf Gull
 - Bittern
 - Great Blue Heron
 - Night Heron
 - Cormorant
 - Snowy Heron
 - Sora duck.
 - Spotted Sandpiper
 - dove

- Raven
- Goldfinch
- Redstart
- Flicker
- Song Sparrow
- House Wren
- Buzzard
- Lesser Yellowlegs
- Song Sparrow
- Meadowlark
- Ring-billed Gull
- Bank Swallow

- ✓ 12 ducks
- ✓ wheat
- ✓ box for ducks
- ✓ parcel post
- ✓ lumber
- Drayage

10	20
1	00
1	10
2	20
2	55
50	
<hr/>	
14	55
10	00
<hr/>	
4	55

5 00

- | | |
|--------------|-----------------------|
| - 1 Teal | } died during absence |
| - 1 Mallard | |
| - 3 pintail | |
| - 1 Avocet | |
| - 1 Murrelet | |

- put in
- 1 Pintail
 - 1 Mallard
 - 2 Teal

- got away.
- 3 Pintail
 - 5 Teal

Sept 7

- Bobolink
- Common Noddy
- Barn Swallow
- Killdeer
- Owl
- Marsh Wren
- Cormorant
- Cormorant
- Green-winged Teal
- Sparrow Hawk
- Yellowthroat
- Red-bellied Pigeon
- Pintail
- goose
- Black Hawk
- Owl
- Owl
- Lesser Yellowlegs
- Towhee
- Spotted Sandpiper
- Belted Kingfisher
- Night Hawk
- Great Blue
- Black Hawk
- Black Tern
- Redhead

Migration of Fra

- Brought in
- 2 greenwing
 - 1 Cinnamon
 - 1 Killdeer

ducks feeding.

6:30 P.M.

#3 teal eye not bright
 Gravid set down
 other D.K. water apparently
 not touched feet very little
 faeces evident. Wheat from last
 night not eating. ~~Strong~~ color
 of H₂SO₄ evident

#4 birds alert. ~~flew~~ against
 wave, faeces thin. water 1/2 gone
 wheat gone.

#5 sick bird with drain in
 neck. dumping wheat gone.
 not firm excrement in cage.
 one voided watery faeces.

1

Sept 8

7⁰⁰ a

#1

one partial outbred though
none been seen released for two days
2 birds unable to stand. food eaten.

#6 one died jumping. injured

very little wheat eaten 2 birds
with closed eyes. All swimming

#3 birds still on feet. wheat
not eaten. very little water gone and
solution not muddy. 1 qt water
added because of evaporation

#4. 7/5 of solution remaining. birds
action wild. much wheat remaining
farms soft. fresh water abundant

#5 sick bird a little worse. no
other change. much wheat left in
cage.

#7 One seal dead on water.
others active. other seal with feathers
all pulled from back. Mallard.
added another seal at 8¹⁵

wind north then 49°
clear. sun up in rain.

#2 birds found wild. none of
egg stuff. no water

#8 2 Pintails 2. Seal, 2 dom. 2.30
Mallard. on pond swimming deep. Chana
& narrow band of yellow. on submerged
flats. from which water has just
receded. no shade

Sept 8

2:45

- Barn Swallow

- Yellowhead

- Dove

- Marsh Wren

- Magpie

- Billbird

- Barn Swallow

- Night Heron

- Spotted Sandpiper

- Marsh Hawk

- Mallard

- Snowy Plover

- Cat

- Green-winged Teal

- Chimney

- Killdeer

- Foster Tern

- Great Blue Heron

- Gulf Gull

- Shrike

- Cuckoo

- Crows

- Pintail

- Lesser Yellowlegs

- W. Sandpiper

- Greater Yellowlegs

- Phalarope

- Tit

- Doves

- Red-breasted Nuthatch

- Thrush

#2 moved

30 ft west from

old shaded.



Put in #10

~~29-85~~ ~~Green-winged~~

~~1-8-87~~ #1

~~7 Pintail~~

active but somewhat dead as
water very calm and

Mallard

growing ~~much~~ ~~much~~ ~~much~~ ~~much~~ }

Chippewa

all above in above of Lake Superior
wind had blown water from flats
2 1/2 days last night. 5 km wide
water about on flats a little
further.

Sept 1.

6:30

#3 Seal down very weak. head
held up but eye half closed.

Pontal with feathers on head ruffed
Mallard lamb.

Domestic duck apparently well
but eat down frequently.

solution little used. no sound in it

#4 Birds all active. What
fairly well cleaned up.
solution on hay gone. fairer fairly
fine about up.

#5 sick bird very drugged thus.

Normal birds all transferred to
29.

#6 birds active. no dead seal
stripped.

Davis

shot at big club last year 12,000
average of D. for 1 year 106.

no sick before 1940

change in 30 years from salt to
fresh water.

also from deep water to shallow
water ducks.

has seen old squaw's scoter here

106
30
3180

Sept. 9

7009.

- #1 3 dead Pentails. 3 helpless.
 others all on water. two coughing
 one by putting bill in water.
- #6 1/6 dead seal. 1 dead still.
 7 helpless on bank, 2 in water others all
 active. Helpless birds with failure of
 1 year period.
- #7 Sick bird down in breast with
 lungs diseased. no amount of
 food could get support weight in
 legs, neck down, eyes closed.
 Others normal.
- #3 Seal. 1 dead seal. lying on bank.
 down in seal stained with renal
 matter. Muffled drooping,
 double duck along, action
 much that in pen noted just now.
- #4. section 1/2 year. birds active
 some just from initial action.
- #7 One collected. Others bright &
 just the dead clear pinky until
 investigated.
- #9 9- "Substandard dead"

run up an inch. cold
 one monarch

- Shrike
- House Sparrows
- Dove
- Magpie
- Intermediate Sparrows
- Chipping Sparrow
- Starling
- Marshy Hawk
- Wood Pewee
- Gull
- Redwing
- Song Sparrows
- Yellowhead
- Goldfinch
- Brown and Blue Tit
- House Sparrow Sparrows
- Redhead
- Chat.
- Goshawk
- Chimney Swift
- Greenwing
- Bullfinch
- Catbird
- Song Sparrow 2 struck now
- Gull
- Pigeon
- Song Sparrow
- Dove
- Greater Yellowlegs
- Great Blue Heron

#1 Gadwall 1
 " Pintail III
 #6 Seal III III III III
 " 11/2 Sandpiper III
 #1 Mallard 1
 #5 Common Seal II

Sept 9 Day
 1
 5
 19
 3
 2
 2
 32

#5
 P. M.
 Seal
 Common Seal
 Green-winged "

1
 1
 29

2:30 P.M.

#5 placed on the willow near
 outlet lake. banded seals with
 mesh and placed five half in
 space as they curved ran through
 it. Put in 8 greenings on Common
 brought up from the Thompson.
 Birds were not given water until
 experiment was started. Common
 bathed. Birds were all strong enough
 to swim seemed to me to be
 individuals that would recover
 if conditions were right. Just small
 amount of wheat.

#2 fed wheat. Birds all active
 jumping. water in pen muddy.
 One collected 3 feet water to fornicate
 clean water and to urinate in
 little pond of water. Began to
 preen but other all ate.
 White due worse other. nips Seal

Severely. Pintail jumping just
 all present & cleaned.
 Water running into lake from
 overflow today. yesterday was
 running out.
 #8 found that water level
 needed draining from 75 feet from
 water. One Seal about trapped in
 mud with gumsh which excrement
 at some point had found
 muddy. Other seals wanted
 feathers in head pulled off. bird
 lying on back stuck in mud.
 All birds very muddy. moved
 pen to water. today. One Pintail &
 smallest rather dead. Sick Pintail
 bathed. preening himself with
 mud. All feet muddy. Washed
 Seal & put it back but others
 trampled it so that I took it out
 for good. One or eight freshly
 killed Seal in one mud area yards

Sept 9 P.M.

~~2 Greenings~~
~~1 Common~~
~~1 Mallard~~
~~2 Sandpiper~~

Sept 9 7 P.M.

#1 dead up Pintails 1 mallard - other ducks in water one rather dumpy gave ground wheat.

#6 3 dead green wings, 10 on bank others in water. The Sandpiper alert other two crowded against for warmth. Four birds racking head with each breath. One whirring.

one in water long time.
#7 Pintails alert. Seal down small to stand. Can flap wings. ~~request~~ 7 move along on beach. request & will probably die as it is cold ground. With grass damp. Pintails flap water all over and whirring at close range.

~~#9 2.11.11. what & a cool~~

#3 Mallard & mallard. Domestic duck affected. Situation little new.

~~#4 12.11.11. birds asleep~~

Exp	6	H ₂ SO ₄	Sept. 5 -	Sept. 11
"	7	MgCl ₂	" 5 -	any time
"	8	Lake #1	" 6 -	Sept 14
"	9	dom. duck	Aug 31 -	
"	10	maggots	Sept 7 -	Sept. 14
"	11	pin #1		
"	12	" #6		
"	13	Lake #2	Sept. 8 -	Sept 16
"	14	rock birds #1	Sept. 9 -	

To garden on Sept 15.

Soft lake on 16/17. Corina 18

New State " " 17-

When #6 ^{pin #3} suns out, begin new experiment in weak acid. New new pin ^{#10} built against boat house. On 15th will have pins #4, 2, 7, & 10 available.

Sept 16 9 A.M.

#1 3 Pintails work on whirring. All others active in water.

#6 eight birds on bank one dead. # with eyes shut. Is swam off when put in water. Other two work. Sandpiper down as last night. One was sitting on seal to keep warm. One of them is apparently almost well.

#7 Seal dead. One Pintail rather quiet. Other normal.

#9 Two birds seemed rather dull.

#3 Mallard lying on beach dead. domestic duck strong fresh juice noted. Situation unchanged.

#4 Mallard rather weak. Left head down in line of other ducks. Other ducks normal. 3/4 gone.

and last temp. 43°

Sept 10

- Magpie
- House Finch
- Junco
- Dove
- Starling
- Barn Swallow
- Raven
- Crow
- Night Hawk
- House Wren
- Song Sparrow
- Field Sparrow
- Goldfinch
- Cowbird
- Redwing
- Mallard
- Goose
- Brown Pelican
- Wood Pewee
- Song Sparrow
- Catbird
- Chickadee
- King Sparrow

small pintail sick in pen #1.
 mud filled in yesterday.
 Previously had sand bottom.

Brought in by Ray 9 AM

- Avocet 2 III
- American Owl 1
- Redtail 1
- Mallard 11

2:20 P.M.

#5 Birds all active. ~~nothing~~
 got what
 I added for more Quail
 brought up from #2 this is M. de
 some with another one near
 bird rather near and one of old
 was near the island got what
 #2 Birds all active & bright
 moved cage this got what to give
 fresh water. Birds all at cage
 #8 Birds with water high level
 being perched on. Bottom
 is covered in mud in which
 one of the Mallard were stuck.
 Mud from washed birds got
 what

#1 4 on pintail in same helpless
2 on road. heads lying water
can in water. not able to
swim. One bird jumping with
upstretched neck. One due of catfish
trouble. Red wheat. water.

#6 One dead seal, one very weak.
Others all in water. Two climbed up
wire at end of cage. Half a dozen in
water with eyes closed.
One about swimming. Others in bank.
Hillside ~~some~~. I saw Sandpiper stick
a mouth, others swimming about
but with ruffled feathers. All three
able to run with ease. Very tame.
water.

#7 One Pintail down with neck
looser could not support head. Arms
stretched. Bright green. Fat & wings
low. Fed wheat. Other Pintail
active.

#8 Birds O.K. Fed wheat & water.

#3 Bird O.K. Solution not touched
and small amount of wheat.

#4 Birds active. Mashed a
little meal. Water low. Just
served.

Sept 11

7 am

#1 dead 2 Pintails 3 helpless
one dead bird very thin.
One mallech 3 Pintail in water
not active.

#6 dead 1 common seal 1 W.B.
Sandpiper. 1 greynose 1 Avocet.
3 greynose on shore. dead bird
had wings cut out. Several
seal flew up. I opened 3 seal eyes
and let rest in water. Taking dead
mammals. Seal that died very thin.

#7 One Pintail dead. Others active.
several apparently not injured.
Dead bird lying. Two large
mammals. 4 mammals.

~~1 Pintail O.K.~~

~~2 birds O.K. Mallard and
solution 7/5 gone~~

23 P.M. #2 1 Seal now at active
fed wheat. moved from slightly
to green feed water.

#5 birds all living. One with
eyes closed. Others all right. Two
very active.

#8. Pintails & Mallard very
noisy. Long hole. 15 inches long
and deep. Bird whose eye I fed
yesterday. One Pintail with
most of feathers gone from head
fed wheat.

Spencer P.

- Juan & Francis
- Bing
- Mark White

[illegible]

7:00 P.M.

#1 Pintail dead. Just as they were
 2 Killdeer. One of which had
 not been seen before. One dead
 cleaned out & replaced by sand.
 A sand dug away from pond to
 give good covering.
 2 Pintail in water droopy.
 #6 Seal all in water two with
 Catarhal trouble. 2 Aves +
 Still on bank. Killdeer swimming
 but unable to walk. 2 Seal
 outside. W. B. Sandpiper etc
 no change.
 #7 Pintail active
 H. O. K.
 #3 no change. solution introduced
 & no change.

~~#1 dead. Birds active. one helped on
 back 3 inches back. Others dead
 & hungry
 #2 2 parrots dead. One killed by
 spear. One of dead very strong
 the other one weak
 #3 1 dead 10 ft. with the dead
 #4 3 parrots were on the ground
 #5 no change in solution and~~

#2. Birds active but did
 not appear to eat when food was
 in their water so I added
 fresh water. water was very
 #5 door open & seal all gone
 but two guineas. These two
 very active.
 #9 one Pintail & one Mallard dead
 when water was added & moved
 them to fresh water. Birds were
 flying down when first seen.

Brought in 32

Pintail		10	
Green-wing		2	47
Mallard		2	
Spar. bill		2	

- 8/28/24
- Button
 - Bobolink
 - Barn Swallow
 - Marsh Wren
 - Cowbird
 - Green-winged Teal
 - Cinnamon Teal
 - Raven
 - Snowy Plover
 - Night Plover
 - Ring-billed Gull
 - Towhee
 - Yellow-head
 - Savannah Sparrow
 - Coyote
 - Killdeer
 - W. Sandpiper
 - Ring-necked Pheasant
 - Pheasant
 - Great Blue Heron
 - Quail
 - Goldfinch
 - Pheasant
 - Mallard
 - Ring-billed Gull
 - No Phalarope
 - Green-winged Teal
 - Great Sandpiper
 - Lesser Scaup

#1 ~~3 Helpless on bank on the fog?~~

#6 ~~2 Helpless Greenings 3 small~~
~~Spurred to lead attracted by light~~

~~#10.16~~

#3 no change

#4 no change

~~released~~
~~1 Pintail~~
~~1 Greenwing~~

Exp 13

#1 ~~Two dead Pintails~~
~~2 Helpless on bank~~

#6 ~~Dead 1 Killdeer 1 Quail 2~~
~~Greenings~~
~~no change~~

#3 no change

#4 no change

800 A.M.

#3

~~1/4~~

~~1/2 30~~

~~1 Mallard, 1 Pintail, 1 Domestic, 1 Greening~~

~~1/4 5dwt~~
~~1 Mallard, 1 Pintail, 1 Domestic, 1 Greening~~

8505
04

Experiments Mann

H. 1 Sept 13

Quail Wren
Barn Swallow
Yellowthroat
Marsh Wren.

Sept. 14

7:00 AM

#1 Dead 1 Pintail 1 Mallard.
other active birds digging
considerable. One cannot walk.

#6. Dead 1 Killdeer - Birds had
dug in the ground and a number
had escaped. Released 10
Barn Swallows if you don't see
flats.

present Sparrow 3
Sitt 1
Killdeer 1

~~#9 Birds B.R.~~

P 3 Birds B.R. solution removed from
H 11 " " solution

#17 Pintail ground mostly in feet
much more of ground

- Magpie
- Yellowhead
- Flicker
- Blue Swallow
- Spotted Cowbird
- Robin
- Green-winged Teal
- Night Heron
- Killdeer
- Sandpiper
- Mallard
- Dove
- Pigeon
- Pintail
- Cassin's Tern
- Cowbird
- Snowy Plover
- Forked Tern
- Redhead
- Ruddy Duck
- Buzzard
- Great Blue Heron
- Ring-billed Gull
- Sparrow
- Greater Yellowlegs
- Red-billed Gull
- Marsh Hawk

Sept 16

- Magpie
- Audubon Warbler
- Sharp-shinned Hawk
- English Sparrow
- Meadowlark
- Goldfinch
- Ring-billed Gull
- Night Heron
- Spotted Cowbird
- Flicker
- House Finch
- Yellowhead
- Kingfisher
- Crows
- Mallard
- Redhead
- Cowbird
- Snowy Plover
- Greater Yellowlegs
- Forked Tern
- Robin
- Great Blue Heron
- Dove
- Pigeon
- Blue Swallow
- Pintail
- Flicker
- Green-winged Teal
- Red-billed Gull
- Greater Yellowlegs
- Marsh Hawk
- Duck Hawk
- B. Wren

501	grooming fly	561	grooming fly
2	grooming fly	2	Pintail ♂ flew
3	"	3	" ♀
4	grooming fly	4	Pintail ♂ flew
5	Pintail ♂ in river	5	Shoveller ♂ flew
6	grooming fly	6	Pintail
7	Pintail ♂ flew	7	grooming fly
8	grooming fly	8	Pintail ♂ in river
9	grooming in river	9	grooming fly
510	grooming fly	570	P. ♀
1	Pintail ♂ flew	1	Pintail ♂
2	grooming fly	2	Pintail ♂ flew
3	Shoveller ♂ in river	3	grooming fly
4	grooming in river	4	Pintail ♂ in river
5	" in river	5	Mallard ♂ in river
6	Pintail	6	Pintail ♂ in river
7	" ♂ in river	7	grooming ..
8	grooming Int.	8	P. ♂
9	Pintail ♂ in river	9	Pintail ♂ in river
520	Pintail ♂ flew	580	Mallard ♂ flew
1	" ♂ in river	1	Mallard ♀
2	Pintail ♂	2	Pintail ♀ in river
3	" ♂ flew	3	M. ♂
4	P. ♀	4	Mallard ♂
5	Cinnamon flew	5	Pintail ♀ flew
6	Pintail ♀ in river	6	Pintail ♂ in river
7	Mallard ♂ in river	7	Cinnamon flew
8	grooming fly	8	Mallard
9	grooming fly	9	Pintail ♀ flew
530	Pintail	590	" ♂ flew
1	Pintail	1	Mallard ♂ flew
2	" ♀	2	grooming fly
3	grooming fly	3	Pintail ♂ flew

4	Mallard ♂ in river	4	Mallard ♂ flew
5	Pintail ♀ flew	5	Pint. ♂
6	grooming fly	6	Mallard ♂ flew
7	Pintail ♂	7	Cinnamon in river
8	grooming ♀ flew	8	Pintail ♂ flew
9	Pintail ♂ in river	9	" ♂ in river
540	grooming	600	P. 10.
1	Pintail ♀ in river		
2	Pintail ♂ flew one leg		
3	" ♀ in river		
4	grooming fly		
5	Pintail ♂ in river		
6	" " "		
7	Shitt flew		
8	Pintail ♂ in river		
9	" ♂ " "		
550	" ♂ " " one foot without web		
1	Cinnamon flew		
2	grooming fly		
3	Pintail ♀ flew		
4	P. ♀		
5	Pintail		
6	" ♀ flew		
7	Pintail ♀ flew		
8	grooming		
9	Pintail ♀ flew		
560	Pintail ♂ flew		

+ Nettion	26
- Dalia	54
- Spatula	2
- Anas	12
- Querquedula	5
- Himantopus	1
	<hr/> 100

5.00 P.M.

July 9 - normal

3.3 Birds all active
 3.4 Birds all active

3.5 Birds all active

#1 on road 2.5 birds - 1 gadwall

#6 17 gulls

Sept. 17

- Pelican
- Heron
- Cooper Hawk
- Song Sparrow
- Marsh Wren
- Indigo Bunting
- Great
- Common
- D. L.
- Song Sparrow
- No. Oriole
- Crow
- Yellow
- Pintail
- Curlew
- Green Heron
- Ring-billed Gull
- Lawrence Sparrow
- Gold
- Great Blue Heron
- Ring-billed Gull
- Kingfisher
- Audubon Warbler
- Green-winged Teal
- Magpie
- House Wren
- Titmouse
- Grackle
- Canada Goose
- Redhead
- Greater Yellowlegs
- Duck

#1 birds 10 ft. can reach length
#6 birds 10 ft.

#2 birds 10 ft. can reach length
four inches

#3 placed in 1/2 cupless list of
up to 10 ft.

#4 10 ft. can reach length
in feet.

#5 added 10 ft. can reach length
in feet.

Ames distinguished white neck
smaller shown
Mallard 1
Greenwing III
Spoonbill I

Ames clear not distinguished
Mallard 1
Greenwing II

Shot
Greenwing 1
Widgeon 1

about 75 birds north of Brown's
creeper. 40 dead.

greenwing with prominent ames
usually held back. 1 specimen
shown. 10 birds seen.

Brought in
- Mallard IIII IIII IIII IIII 20
- wood IIII 7
- Greenwing IIII IIII IIII IIII IIII IIII 49
- Spoonbill IIII 4
- Pintail IIII IIII IIII IIII IIII IIII 65
- Cinnamon II 2
- Gadwall III 3

150

Sept 13

- [illegible]

21. And 9 Pintails + Mallard
actually helped 1 Mallard 30 in lake
8 Pintails + 3 Mallards in water
but weak. 1 gadwall weak. One
gull in front 10. Pintail
or gull + 30 in water.

The dead ~~forest~~ ~~scum~~ ~~and~~
~~in hills~~ 10 greenest red
 sulphur red bark, green, 2 small
 children. Other fairly rich. Cinnamon
 bark, rounded outside of gum. about
 a close birds showing of Calcutta
 reflection.

~~1910.2~~

Ex 3 O.K. - solution boundary

~~of 41 10 1/2~~

3:30 PM

#2 Single Normal. action. Water
Lake very high. number of eels
seen in (Angler's) pool. Most
from a few but not many.
#5. One bird escaped. Others than
most but not all. recovered
added two more making 5.

Started out 5 Greeninggs 2 Pintails
in water & several others on
shore.

2.3.19. in pond
#3 placed in pond near on
flooded shallow with some
the water of pond

6.00 P.M.

No. 1 added 2 ~~Red-tails~~
~~dead 2 Red-tails~~
4 Red-tails & 1 godswall on bank
6 Red-tails & 3 Mallards in water
with heavy eyes, 1 mallard with heavy
#6. dead 2 Greenings & 1 Greening
1 about fairly strong. 1 dead
1 about 1/2 Greening
the dead good shape. One or
two strong.

#9 added 2 more

#3 birds active. 1/2 gone
#4 birds active. 1/2 gone

Sept 19 9:00 a.m.
#1 dead 2 Red-tails 3 Mallards
all others with heavy eyes. Though
4 or 5 Red-tails & one godswall were dead.
1 Red-tail hanging
#6 dead 5 about 1 Greening
1 very dead with heavy eyes
other active. One Red-tail & one
about weak. 10 dead with eyes
closed

#9 Q.M.

#3 birds active but quiet
#4 birds ~~inactive~~

- Anchorage, Alaska
- Spotted Owl
 - Raven
 - Night Hawk
 - Great Blue Heron
 - Snowy Heron
 - Kingfisher
 - Meadowlark
 - Magpie
 - Flicker
 - Crow
 - Pelican
 - Western Gull
 - Pintail
 - Mallard
 - Marsh Wren
 - Barn Swallow
 - Towhee
 - Redwing
 - Golden Plover
 - W. Tanager
 - Mourning Dove
 - Dove
 - House Wren
 - N. Phalarope
 - Pectoral Sandpiper
 - Snowy Plover
 - Calif Gull
 - Ring-billed Gull
 - Savannah Sparrow
 - White-throated Sparrow
 - Short-billed Owl

Legg
 bad from fat
 stomach empty some for marrow
 a few bones for contribution
 quaternary. Intestine small firm
 for the size of the bird
 the lining on the inner surface
 especially some distended with
 interstices the slender capillaries
 running up into the villi were
 enlarged and enlarged, visibility
 great within the duodenum and
 as a deep red as the gut
 descended.
 gut pinched. Bad malady

Wetland Spar
 water ~~receding~~ water in
 spin with moderate current above
 my knees in the center. dark
 greenish brown in color bottom lot
 at six inches. water alkaline with odor
 When it ran onto flats water
 has run up but has receded.
 Sample taken on shallow very
 salty. Many seeds of chara
 washed up. 1200 sq. ft
 contained 200 duck another
 area about 15000 ft contained 40
 possibly 2000 to 2500 duck here.
 mainly old birds

dead on gube. Many Greenings
 8 Pintails with few Mallards
 one Calif. gull.
 one pintail 20,000 & 146 birds.

2/3 mile along east channel
 on west side 185 dead birds.
 not quite so many on east bank.
 300 in all. 3/4 of them Greenings.
 1 Snowy Plover, 5 about, 8 Mallards
 rest Pintail. 40 live birds seen.

would make estimate for north
 half of Willard & put about this
 channel at 1200 dead. 2/3 of them
 dead more than two weeks.
 the three counts covered worst
 of it. Others were scattered
 walked a mile to a line of
 cattle tracks.
 2 Widgeon seen dead.

Sept 20 to Corvina

- Night hawk.
 - Night Hawk
 - Pelican
 - Song Sparrow
 - Redwing.
 - Western gube.
 - Magpie
 - Ring-billed gull.
 - Woodcock
 - Audubon Warbler.
 - Calif gull
 - Great Blue Heron
 - Snowy Heron.
 - Crow
 - Canada Goose
 - Pelican
 - Meadowlark.
 - Towhee Tern
 - Spotted Sandpiper
 - Killdeer.
 - Pintail
 - Black Tern.
 - Raven.
 - Pied-billed grebe.
 - Brown Towhee
 - Mallard
 - Green-winged Teal
 - Widgeon
 - Phalarope
 - Loon.
 - Marsh Wren
- Brigham
 Song Sparrow
 Bitter
 Sparrow hawk.

capillaries in villi cluster did not
 wilted due to absorption of water
 from abdominal cavity. Undoubtedly
 evidence of process

Does absorbent matter
 that which the kidneys excrete
 thrown off.

Fact that many bones & urea
 and other are affected would point
 to a chronic condition. Bone fragments
 are almost radiol. marked.

much more abundant than
 seen in previous no doubt
 throughout too.

- English Sparrow
- Brewer Blackbird
- Lizard
- Magpie
- Vesper Sparrow
- Mourning Dove
- Ring-billed Gull
- Dove
- Ring-billed Gull
- Savannah Sparrow
- Green-winged Teal
- Sparrow
- White-crowned Sparrow
- Wild
- Mallard
- Downy Woodpecker
- Grackle
- Crow
- Goldfinch
- N. C. Chalcops
- Avocet
- Goldfinch
- Greater Yellowlegs
- Yellowlegs
- V. S. and others
- Forster Tern

1000 dead fish dead in the yard
they eating them, ^{perhaps} ~~Bullheads~~
Pelican I sick

40 dead in side of of
29 feet dead ^{about} nearly full
mashed out. Much work for
down of vegetation

500 yards showed 250 dead birds
on wood land on ^{forever} wood
in fresh birds

In opposite side in same distance
were around 500 birds
about 1/3 gone.

Birds of ^{all} ~~all~~ ^{sorts} ~~sorts~~
present but not 500 - 10,000

Bird factory with 3 drains.

The opening of factory has killed
fish. Though the main part of the
flocks have gone they come in to
feed in considerable numbers on the
newly flooded lands and were
seen in the old channel but none
were sick. In addition this gulls
and Pelicans had gathered to the
fact of fish but were not troubled.

- (left 2)
- Long-tailed Duck
 - Canada Warbler
 - Night Heron
 - Robin
 - Kingfisher
 - Blue Jay
 - Forster Tern
 - Osprey
 - English Sparrow
 - Crow
 - Yellowhead
 - Mourning Dove
 - Snow Bird
 - Great Blue Heron
 - Ring-billed Gull
 - Marsh Hawk
 - Red-chapped Flicker
 - Golden-crowned Kinglet
 - Ring-billed Gull
 - Western Gull
 - Sharp-shinned Hawk
 - Cormorant
 - Duck Hawk

Sept 22 700
 M. 1 birds
 2 birds
 7 birds
 11 7 birds
 11 9 birds
 11 4 birds

Drumming

Bronzed		25
- Pintail		2
- Green-wing		6
- Mallard		1
- Hornbill	1	1
- Coot	1	1
- Gadwall	1	
		36

- Pine Siskin
- Song Sparrow
- Raven
- Magpie
- Bullfinch
- House Finch
- English Sparrow
- Pipit
- Audubon Warbler
- Marsh Wren
- Cormorant
- Flicker
- Barn Swallow
- Ring-billed Gull
- Red-tailed Hawk
- Kestrel
- Night Heron
- Osprey
- Avocet
- Horned Lark
- Great Horned Owl
- Duck Hawk
- Marsh Hawk
- Mallard
- Green-winged Teal
- Calif Gull
- Sp. Puffin
- Common Seal
- Wedge-tail
- Kelp
- W. Sandpiper
- Duck

Sept. 23

- Blue Jay
- Raven
- Pigeon
- Marsh Wren
- Song Sparrow
- Canada Goose
- House Finch
- Barn Swallow
- Goldfinch
- Song Sparrow
- Cowbird
- Night Heron
- Magpie
- American Cuckoo
- Yellowthroat
- Goldfinch
- House Finch
- Song Sparrow
- Blue Jay
- Ring-billed Gull
- Killdeer
- Crow
- Pileated
- Green-winged Teal
- Noddy
- Marsh Hawk
- Horned Lark

#1 3 Pintail, 1 Mallard helpless.
 3 Pintails, 1 gadwall dead.
 Pintail nest. dead birds
 very thin.

#6 4 Green-winged dead. rest O.K.
~~Killed dead yesterday~~ + Cool dead.

#10 full action some of Pintail
 eating from another bird
 killed yesterday

#7 Birds active

#9 O.K.

#3 Mallard active others weak.

#4 all active

dead bird Sept 9.30

#2 all active. just back little

#5 empty

#8 200 birds dead. others variable
 to fly far. few moved to small
 pond. just left a flat. birds
 killed. 1 dead. 1 dead. 1 dead. 1 dead.
 just back little. - some white
 from

water in pool active

Sept 23

602	603	610	620	630
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
13	13	13	13	13
14	14	14	14	14
15	15	15	15	15
16	16	16	16	16
17	17	17	17	17
18	18	18	18	18
19	19	19	19	19
20	20	20	20	20
21	21	21	21	21
22	22	22	22	22
23	23	23	23	23
24	24	24	24	24
25	25	25	25	25
26	26	26	26	26
27	27	27	27	27
28	28	28	28	28
29	29	29	29	29
30	30	30	30	30
31	31	31	31	31
32	32	32	32	32
33	33	33	33	33
34	34	34	34	34
35	35	35	35	35
36	36	36	36	36
37	37	37	37	37
38	38	38	38	38
39	39	39	39	39
40	40	40	40	40
41	41	41	41	41
42	42	42	42	42
43	43	43	43	43
44	44	44	44	44
45	45	45	45	45
46	46	46	46	46
47	47	47	47	47
48	48	48	48	48
49	49	49	49	49
50	50	50	50	50
51	51	51	51	51
52	52	52	52	52
53	53	53	53	53
54	54	54	54	54
55	55	55	55	55
56	56	56	56	56
57	57	57	57	57
58	58	58	58	58
59	59	59	59	59
60	60	60	60	60
61	61	61	61	61
62	62	62	62	62
63	63	63	63	63
64	64	64	64	64
65	65	65	65	65
66	66	66	66	66
67	67	67	67	67
68	68	68	68	68
69	69	69	69	69
70	70	70	70	70
71	71	71	71	71
72	72	72	72	72
73	73	73	73	73
74	74	74	74	74
75	75	75	75	75
76	76	76	76	76
77	77	77	77	77
78	78	78	78	78
79	79	79	79	79
80	80	80	80	80
81	81	81	81	81
82	82	82	82	82
83	83	83	83	83
84	84	84	84	84
85	85	85	85	85
86	86	86	86	86
87	87	87	87	

#8 Greenish and dead from
Death due to hemorrhage
on intestinal canal gut
filled with blood. no trace
of malady.

rehearsal

Avocet	3
- Spoonbill	4
- Cinnamon Teal	2
- Green-winged	16
- Pintail	13
- Mallard	5
- Gadwall	2
	<hr/> 45

Sept. 24 7⁰⁰ a.m.
#1 dead ~~Pintail~~ wing thin. 2
Mallard on bank.

#6 contains 25 gruntings all
active.

#10 gull nest moon fairly strong.

#7 birds active.

banded about same nest.

#9 D.K.

#3 D.K. solitary nearly gone

#4 D.K. solitary nearly gone.

#8 birds active 2³⁰ Jrd. Duck littered

#2 birds active Jrd. dug somewhat
around pen. moved pen a few feet -
water high in early

#7 ~~3⁰⁰~~ Ppt in a pintail filled
with maggots.

#5 Placed in saline shallow
pool of new water in flats.
Bottom cracked.

- Pipit
- Magpie
- Raven
- Marsh Wren
- Redwing
- Avocets
- Kingfisher
- House Finch
- Greater Yellowlegs
- Lesser Yellowlegs
- Night Heron
- Great Blue Heron
- Killdeer
- Green-winged Teal
- Lesser Yellowlegs
- Spermophiles
- Mallard
- Horned Lark
- Pheasant
- Dove
- Stilt
- Pectoral Sandpiper
- Ring-billed Gull
- Calf Gull
- Widgeon
- Gadwall
- Red-billed Gull
- No. 8 Kalarope

2 and 3 greenings - 1 heavy 4th -
 old chimney
 8 in number of 2
 2 Pintails in 1st bunch of water
 13 dead birds on 1st island of 1st
 water
 1st bunch dead 2nd 2
 1st bunch dead 2nd 2
 no birds in 2nd bunch
 1st at 7.00 of 1st bunch
 40 dead 1st bunch
 1st bunch for air
 All the scattered dead in 1st
 1st 31 in 1st 7 30 6 birds
 1st bunch dead
 1st bunch 1st bunch 1st bunch
 one greenwing 1st bunch 1st bunch
 on 1st island 1st bunch 1st bunch
 15 dead in water between
 1st bunch 1st bunch 1st bunch 13 dead
 Island 5, 1st bunch 30 dead
 Island 6, 2 13
 " 7, 2 11
 " 8, 5 30
 " 9, 6 2
 " 10 2
 " 11 5
 " 12 13
 " 13 24
 " 14, 2 57
 " 15 18
 " 16 19
 " 17 17
 " 18 21
 " 19 6

dead counted.
 15-31-30-9-40-4-3-13-6-30-8
 13-11-20-30-4-18-20-57-24-18-19
 17-20-6 473

1047	greening	flaw	thin	escaped
8	"	"	"	greening 11
9	"	"	"	Pintail 11
50	"	in iron	"	Mallard 1
1	"	flaw	fat	
2	"	"	thin	
3	"	"	"	
4	"	flaw	"	
5	"	"	very thin	
6	"	"	thin	
7	"	"	"	
8	"	"	thin	
9	"	"	fat	
10	"	"	thin	
11	"	"	fat	
12	"	"	thin	
13	"	"	fat	
14	"	"	thin	
15	"	"	fat	
16	"	"	thin	
17	"	"	fat	
18	"	"	thin	
19	"	"	fat	
20	"	"	thin	
21	"	"	fat	
22	"	"	thin	
23	"	"	fat	
24	"	"	thin	
25	"	"	fat	
26	"	"	thin	
27	"	"	fat	
28	"	"	thin	
29	"	"	fat	
30	"	"	thin	
31	"	"	fat	
32	"	"	thin	
33	"	"	fat	
34	"	"	thin	
35	"	"	fat	
36	"	"	thin	
37	"	"	fat	
38	"	"	thin	
39	"	"	fat	
40	"	"	thin	
41	"	"	fat	
42	"	"	thin	
43	"	"	fat	
44	"	"	thin	
45	"	"	fat	
46	"	"	thin	
47	"	"	fat	
48	"	"	thin	
49	"	"	fat	
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56	"	"	thin	
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67	"	"	fat	
68	"	"	thin	
69	"	"	fat	
70	"	"	thin	
71	"	"	fat	
72	"	"	thin	
73	"	"	fat	
74	"	"	thin	
75	"	"	fat	
76	"	"	thin	
77	"	"	fat	
78	"	"	thin	
79	"	"	fat	
80	"	"	thin	
81	"	"	fat	
82	"	"	thin	
83	"	"	fat	
84	"	"	thin	
85	"	"	fat	
86	"	"	thin	
87	"	"	fat	
88	"	"	thin	
89	"	"	fat	
90	"	"	thin	
91	"	"	fat	
92	"	"	thin	
93	"	"	fat	
94	"	"	thin	
95	"	"	fat	
96	"	"	thin	
97	"	"	fat	
98	"	"	thin	
99	"	"	fat	
100	"	"	thin	

Brought in

- Pintail	17
- Green-winged	3
- Snowy Heron	1
- S. tit	1
- Pectoral Sandpiper	1
- Goshawk	1
- Spoonbill	1
- Mallard	1
	<hr/> 26

519 up

652 young captured 9/24
6:15

Killed

- Green-winged Seal	20
- Pintail	10
- Mallard	9
- Snowy Heron	<hr/> 1
	40

24. 6:30 P.M.

#1 Birds very active fed what
were very hungry but

#1 2 Mallard weak 1 Goshawk
draggish others alert very hungry

#6 fed them by force but it rejected
the food. Several helpless
652 returned all healthy

#9 O.K.

#3 3 Mallard very active banded
Seal well then solution 1/2 gm

#4 4 seals

Banded Seal with #3.

29 Dec

25

2 May 4

#3 most active solution 2 gone
birds active

#4 bird normal solution gone

#6 1000 birds water. No active
part of duck. 3000 water. 1000 birds
OK. 1000 water. 4 greenings &
2 sparrow. 1000 greenings & 1000

#1 One bird dead. 2 Mallard
Helpless other birds. 1000 greenings & 1000

#7 Birds active normal water.

Banded Hare and Hare

683 Snowy Hare. captured

684 Coot

#5 birds active 10⁰⁰ a.m. 10⁰⁰ a.m.

#8 bird active 10⁰⁰ a.m. water muddy

- English Sparrow
- Redwing
- Marsh Wren
- Raven
- Snowy Hare
- House Finch
- White Crowned Sparrow
- Kingfisher
- Starling Gull
- Jack
- Magpie
- Goldfinch
- Marsh Wren
- Horned Lark
- Lincoln Sparrow
- Night Hawk
- Song Sparrow
- Goldfinch Sparrow
- White Crowned Sparrow
- Piloted Wren
- Chipping Sparrow
- Coot
- Duck
- Killdeer
- Seagull
- Gull
- Farm Swallow
- Great Blue Heron

11:30 a.m.
 #2 placed east of boat house
 with some same duck & 2 feet
 from previous experiment & one
 same duck from no 9. White
 scale from Warren raked up
 & a solution prepared of
 1/4 pint to 10 qts water. I disty
 melt saline to taste.

685	Greenwing	in river
6	Pintail	1 ♀ flew
7	"	♂ "
8	"	h "
9	"	♀ "
90	"	" "
1	Mallard	♂ "
2	"	" in river
3	"	♀ flew
4	"	" "
5	"	" "
6	"	♂ "
7	"	♂ "
8	"	♂ "
9	"	♂ in river
700	Pintail	♂ flew

released

1 Greenwing
 6 Pintail
 9 Mallard -

6³⁰ P.M.

#9 remaining birds O.K.

fed

#2 water $\frac{1}{3}$ gone fed

#3 birds same water apparently not touched - fed

#4 water more than $\frac{1}{2}$ gone birds ate

#6 Hum active, ate twice today. Still helpless, return O.K.

#1 Two mallard + 1 Pintail on bank helpless - return O.K.
dead mallard

#7 all active

1 Mallard dead.

Sept. 26

7:00 a.m.

#1 dead Mallard. One Pintail helpless. One Mallard weak. Return O.K. banded Pintail + Mallard outside.

#6 Still weak. Return O.K. Hum

Much in ground. ate long grass +

#7 Birds all active. Pintail split to expose maggots.

#9 O.K.

#2 solution $\frac{1}{2}$ gone. no change in birds. solution removed

#3 no change solution removed.

James hand to him.

#4 no change solution removed. James him.

- 26
- Barn Swallow
 - Raven
 - Pelican
 - Song Sparrow
 - Calif Gull
 - Cormorant
 - Yellowhead
 - Helebut Warbler
 - Grey-winged Teal
 - Mallard
 - Pintail
 - Great Blue Heron
 - Night Heron
 - Snowy Heron
 - Marsh Wren
 - Osprey what what
 - Killdeer
 - Avocet
 - Western Sandpiper
 - least
 - Ring-billed Gull
 - Coot
 - Greater Yellowlegs
 - Duck Hunt
 - N. Phalarope

~~North Bay clean birds on shore~~
~~heavier yellowlegs pulled~~
~~Black Tern about~~

~~Brought in~~
~~Pintail 11~~
~~Widgeon 1~~
~~Cinnamon Teal 1~~

Sept 27

7th 2nd 14

- #1 Began all in water. Mollusks
printed much sponges
#6. Cinnamon Seal dead still
on jet. From R. K.
#7 birds active
#9 R. K. Green jay.
#2 One seal seemed slightly
dumpy. What not all eaten. low
white faces notes. solution $\frac{1}{2}$ gm.
#3 no change. solution $\frac{1}{2}$ gm. x
#4 no change solution $\frac{1}{2}$ gm.
removed.

- #5 fed what birds 6³⁰ PM
quite wild.
#8 fed what. birds active

Sept 28
 #1 Pintail wack older 0.18
 #6. 1 B. pombill wack
 #7 eel action
 #9 e. w.

#2 rather inactive, had not
 eaten much. faces thin & white
 water 2 gone.

#3 sp. change. solution 2/3 gone
 wheat eaten. all die.

#4 solution 1/2 gone which water
 birds active.

#1. widgum dead. 1⁰⁰ P.M.

- Goldfinch
- P. w. wallow
- Pine Siskin
- Marsh Wren
- Redwing
- Song Sparrow
- Snowed Green
- Snowy Plover
- Cedar Waxwing
- Ruby-crowned Kinglet
- White-crowned Sparrow
- Chickadee
- Hermit Thrush
- Audubon Warbler
- W. gube
- Mourning Dove
- Catbird
- Seaside Sparrow
- P. pit
- Raven
- Magpie

701 Still 0

2	Snowy Heron		
3	Spoonbill	♂	fluv
4	Greenwing		"
5	"		"
6	Pintail	♂	"
7	Widgeon	♂	in river
8	Pintail	♂	fluv
9	"	♀	in river
10	"	♀	fluv
1	Godwits		in river wings worn
2	Pintail	♂	fluv
3	"	♀	" fat.
4	"	♀	" fat.
5	Mallard	♂	" fat.
6	Pintail	♀	" "
7	"	♀	in river " picked in back
8	"	♀	fluv
9	"	"	" picked but back washed
20	"	"	"
1	"	"	"
2	"	"	"
3	"	♂	" picked & removed
4	"	"	"
5	"	"	"
6	"	"	"
7	"	"	"
8	"	"	"
9	"	"	in river
30	"	"	fluv
1	"	"	"
2	"	"	in river
3	"	"	"
4	"	♂	fluv.

652 Total released

735	Pintail	♂	in river
6	"	"	"
7	"	♀	fluv
8	"	"	"
9	"	"	in river
40	"	"	"
1	"	♂	"
2	"	♀	fluv
3	"	"	in river
4	"	"	"
5	"	"	"
6	"	♂	"
7	"	"	"
8	"	"	"
9	"	♀	fluv
50	"	"	"
1	"	♂	in river
2	"	"	fluv

released.

Still	1	
Snowy Heron	1	49
Spoonbill	1	
Greenwing	2	
Pintail	44	
Widgeon	1	
Godwits	1	
Mallard	1	
	<hr/>	
	52	

Sept 29

753 bird from
gumming flew
4 " "
5 " "
6 " "

757 Pintail 1 flew
8 Mallard 2 flew
9 Sparrow 3 "
60 Pintail 3 "
1 " "
2 " "
3 " "
4 " 3 flew
5 " "
6 "

Sept. 29

2:30 PM

#8 birds all active. Killed
one & released. 2nd and 3rd
active

#5 Killed a whole group.
others stopped. 2nd killed
one released. 3rd and 4th
active.
Hole gumming

- Sept 76
- Barn Swallow
 - English Sparrow
 - Redwing
 - Audubon Warbler
 - Long tail
 - Night Heron
 - Great Blue Heron
 - Pintail
 - Marsh Wren
 - Cattle Gull
 - Common Crow
 - Brown Towhee
 - Peewee
 - Horned Lark
 - House Wren
 - May Warbler
 - Flicker
 - Killdeer
 - Crows
 - Cat

Hum

- Sept 30
- Barn Swallow
 - Redwing
 - English Sparrow
 - Marsh Wren
 - House Wren
 - Pintail
 - Ring Necked Gull
 - Killdeer
 - Song Sparrow
 - Juncos
 - Heron
 - Audubon Warbler
 - Long tailed Duck
 - Song Sparrow
 - Ring Necked Pigeon
 - Bittern
 - Green-winged Teal
 - Night Heron
 - Horned Lark
 - Marsh Wren
 - Brown Towhee
 - Common Crow

warm & pleasant

11.2. Seal dead in river
other ducks - other small waterfowl
Haggon - wheat in barbed

Oct. 1

- Flicker
- Common
- Calif. gull
- Pintail
- Green-winged Teal
- Green-winged " 3
- Gadwall 6
- Herring 3
- Mallard
- Redhead 2
- Canada goose
- Albino
- Anas
- Juncos
- Western gull
- Audubon's Warbler
- Zonotrichia leucophrys
- Wn Chipping Sparrow
- Savannah Sparrow
- Marsh Wren
- Ruby-crowned Kinglet
- Coot
- Pelican
- Ring-billed gull
- Night Heron
- Snowy "
- Great Blue "
- Bullfinch
- W. Sandpiper
- Green-billed Dowitcher
- Bay Swallow
- Redwing
- Raven - Magpie

Oct 2

- 7 Cuckers
- 1 Goose
- 1 Pigeon
- Red wing
- 1 Cowbird
- Snowy Wren
- 1 Jay
- 1 Green-winged Teal
- 1 Ring-billed Gull
- 1 Ring-billed Gull
- 1 Ring-billed Gull
- 1 Dove

- English Sparrows
- Magpie
- Goldfinch
- Tree Sparrow
- Song Sparrow
- 1 Oriole
- 1 Indigo Bunting
- Mountain Towhee
- 1 Ring-billed Gull
- Kingfisher
- 1 Night Heron
- 1 Zonotrichia leucophrys
- 1 Flicker
- 1 House Wren
- 1 Ruby-crowned Kinglet
- 1 Pine Siskin
- 1 Zenaidura macroura
- Robin
- 1 Kestrel
- 1 Osprey
- 1 Hermit Thrush
- Red-tailed Hawk
- 1 Indigo Bunting
- 1 Spotted Sandpiper
- 1 Ring-billed Gull
- 1 Dove

Wilbur C. C.

Wetland	Wetland
1) Meadow Lark	1) Song Sparrow
1) Pigeon	1) Dove
1) Greenish Sparrow	1) Gold Finch
1) Chipping Sparrow	1) Tit
1) Song Sparrow	1) Cowbird
1) Foxglove Sparrow	1) American Goldfinch
1) Sparrowhawk	1) Spangly Finch
1) Chestnut Warbler	1) Crow
1) Indigo Bunting	1) Flicker
1) Ruby-crowned Kinglet	1) Great Blue Heron
1) M. Yellowlegs	1) Heron
1) Towhee	1) Dove
1) Robin	1) N. Phalarope
1) Oriole	1) Noddy
1) House Finch	1) Red-tailed Hawk
1) Mourning Dove	1) Snowbird
1) Redwing	1) Bald Eagle
1) Brewer's Blackbird	1) Osprey
1) Marsh Hawk	1) Hawk
1) Golden Plover	1) Duck
1) Plover	1) Pintail
1) Red Phalarope	1) Mallard
1) Great Sandpiper	1) Golden Plover
1) Sandpiper	1) American Goldeneye
1) Western Gull	1) Osprey
1) Canada Goose	1) Duck
1) Mallard	1) Red-tailed Hawk
1) Robin	1) Wood Duck
1) Cowbird	1) N. Phalarope
1) Pintail	1) Great Blue Heron
1) Ring-billed Gull	1) Western Goldeneye
1) Lincoln Sparrow	1) Wood Duck
1) Yellowthroat	1) Wood Duck
1) Indigo Bunting	1) Wood Duck
1) Red Phalarope	1) Wood Duck

Up after anchoring at flats before
steady ~~Southwest~~ wind from of a rough
calm. ~~Ship~~ following it is to
pass

Oct 26

- Ellis Bingham level plain grassland
- Meadowlark Corners sedgeland flats
- Magpie " little mountain no trees
- ~~Pond turtle~~ " gullies & flats with water
- Avocet " depression & old channels
- Still " series of wooded channels
- Marsh Hawk 15 ft. banks
- Ring-billed Gull cattail
- ~~Swamp~~ Above Blue Creek
- Sparrow Hawk. Country rolling up hill

Oct 27 Red Sea

- Raven
- Pig
- House Finch
- Song Sparrow
- Red-winged Blackbird
- Goldfinch
- Horned Lark
- Junco
- Orchard Warbler
- ~~Junco~~
- Sage Sparrow
- Wren
- Mallard
- Green-winged Teal
- Marsh Hawk
- Hermit Thrush
- Killdeer
- Pintail
- Marsh Wren
- Virginia Rail
- Woodcock
- Rock Wren
- Crows

Oct 20

- Ellis English
- Meadowlark
- Pine Siskin
- Magpie
- Golden-crowned Kinglet
- Grosbeak
- Blue-blackbird
- Grackle
- Pigeon
- Horned Lark
- Raven
- Meadowlark
- Song Sparrow

Oct 13

Killdeer

Aug 8 1890

House hawk

Pipt

W. C. C.

Williford

My dear

Portrait.

Meadowbank.

Forster Fern

Quarrying, Soil 105.5

Chas. K. Cable

Greater Yellowlegs

Pectoral Sandpiper ♀
 107 107 107

Oct 16

L. E. Olsen, Harper Utah R.F.D. #1.
has noted sick chicks since fall of
1904 all graminized seal sitting about
in brush & bayonet grass all yet
seen in November before freezing
were not bad until 1909 then
large numbers seen. in 1911
900 to 100 thousand were buried.
those picked up all lay in water
those on land not touched.
Sage factory started 1895 for
3 years small began grinding
later then closed in capacity
& now is much increased.
In 1904 a little channel dug just
dry up at fall in 1905 but
Olsen water from river. Have
seen had only chicks there.
Heck sick 2 in from Salt water
Olsen seems to have seen sick puddles

found dead Pelicans
water in puddles with bubbles
of salt
Salt in shallow water
saline pool milky in color FeSO₄

Oct. 14 Promontory Pt.

- Raven
- Meadowlark
- House Finch
- Ho. Phalarope
- Magpie
- Song Sparrow
- Horned Lark
- Pipit
- Goldfinch
- Golden-crowned Wren
- Mt. Chickadee
- Amphispiza
- White-crowned Sparrow 109.7
- Miner 109.1
- Flicker
- Robin
- Pine Siskin ad 49 shot in hand 100.5 107.6
- Red-breasted Nuthatch
- Junco
- Pheasant: *Silvestris* HD.
- White-throated Sparrow 108.8
- Wn Evening Grosbeak 100.5 107.5
- Woodchuck
- *Sialia arctica*
- *Perolophus* *cinereus* 100.5 chatter
- Ruby-crowned Kinglet
- Marsh Hawk
- Song Sparrow
- Song Sparrow
- Great Salt Lake Duck

10.1.16

Chrysothamnus abd. 1 Mentzelia

gracilis.

Gravel track. siltstone of fly larvae
many carps 2 1/2 - 3 inch long,
siltstone in places 2 in deep by 26
30 ft wide.

Oct. 18

- Marsh Wren.
- Gadwall
- Pintail
- Green-winged Teal
- Mallard
- Long-billed Dowitcher
- Ring-billed Gull
- Redwing
- Bittern
- Night Heron
- Great Blue
- Snowy "
- Flicker
- Merganser
- W. Grebe
- Red-bellied Grebe
- Magpie
- Golden Eagle
- Marsh Hawk
- English Sparrow
- Starling
- Pigeon

Oct. 17

- Raven
- Avocet
- Night Heron
- Marsh Wren
- Song Sparrow
- Western Gull
- Redwing
- Pintail
- Green-winged Teal
- Dowitcher
- Mallard
- Sperm-bill
- Godwits
- Wilson
- Cinnamon Teal
- Canvasback
- Redhead
- Canada Goose
- W. Sandpiper
- Pectoral
- Ring-billed Gull
- Forster Tern
- Ruddy Duck
- P. Phalarope
- Downy Woodpecker
- Magpie
- Pipit

- 11
- *Perthuis gentili* 109
 - Barn Swallow
 - Goldfinch
 - Song Sparrow
 - Western Gull
 - Ruby-crusted Kinglet
 - Ring-billed Gull
 - Belted
 - Night Heron
 - Marsh Wren
 - Cinnamon Teal
 - Blue-bill
 - Wilson
 - Godwits
 - Avocet
 - Mallard
 - Canvasback
 - Redhead
 - Sperm-bill
 - Green-winged Teal.
 - Pintail
 - Dowitcher
 - Coyt
 - Red-billed Gull
 - Killdeer
 - Marsh Hawk
 - Magpie
 - Pipit
 - Raven

2801	Campylopterus	♀	2855	Green-wing	♂
2	Pied bill	♂	1	Cinnamon	♂
3	"	♂	2	"	"
4	Mt. chickadee	♀	3	Green-wing	"
5	"	♀	4	"	"
6	Pintail	♂	5	"	"
7	"	"	6	"	♂
8	"	"	7	"	"
9	"	"	8	"	♀
10	Spoonbill	♂	9	"	"
11	"	♀	10	"	"
12	"	"	11	"	"
13	"	"	12	Cinnamon	"
14	"	♂	13	Mallard	♂
15	"	♀	14	"	"
16	"	"	15	"	"
17	"	"	16	Pintail	♀
18	"	"	17	"	"
19	"	"	18	"	"
20	"	"	19	"	"
21	"	"	20	"	"
22	Widgeon	♂	21	"	"
23	Green-wing	♀	22	"	"
24	"	"	23	"	"
25	"	"	24	"	"
26	"	♂	25	"	"
27	"	♂	26	"	"
28	"	♂	27	"	"
29	"	♂	28	"	"
30	"	"	29	"	"
31	Pintail	♂	30	"	"
32	"	♀	31	"	"
33	Green-wing	♀	32	"	"
34	"	♂	33	"	"

2569	Pintail	♂
70	"	♂
1	"	♂
2	"	"
3	Jack-walk	♀
4	"	"
5	Widgeon	♀
6	Spoonbill	♀
7	"	♂
8	"	♂
9	"	"
80	"	"
1	"	"
2	"	♂
3	"	♂
4	"	♀
5	"	"
6	"	"
7	Red-head	♀
8	Mallard	♂
9	"	"
90	Pintail	"
1	"	♀
2	"	♀
3	"	♂
4	"	♂
5	"	♂
6	"	♀
7	"	♀
8	"	♂
9	Green-wing	♂
2900	"	♀
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Oct. 20

2901	Green-wing
2	"
3	"
4	Downy
5	Goose
6	Oct 13
7	Gull del

Oct. 19

- Rock Wren
- Pine Siskin
- Ring billed Gull
- Marsh Wren
- Redwing
- House Finch
- Song Sparrow
- Western Gull
- Red billed "
- Mountain Chickadee
- Bittern
- Great Blue Heron
- Night Heron
- Horned Lark
- Magpie
- Pigeon
- Raven
- Robin

Oct 20

- Goshawk ~~102.6~~ 100.7 104.6
- Downy Woodpecker ~~104.6~~
- Avocet
- Mallard ~~105.1~~
- Pintail
- Green-winged Teal
- Hooded Merganser
- W. Grebe
- Marsh Wren
- Redwing
- Great Blue Heron
- English Sparrow
- Marsh Hawk
- Magpie
- Raven
- Ring billed Gull
- Franklin Gull.
- Night Heron
- Spermophile
- Greater Yellowlegs
- Coot
- Tundra Swan
- Virginia Rail

Di. fish
 Night from 11:00 am etc. finished
 made very low low.
 left 1 to 10 or 12 feet high & dry
 the ocean close on March 15
 on March 15
 in water the rain, San Juan, Grand,
 and linked sand in San Juan, Grand,
 every garden, water, rain, then
 mixed and good country then
 a garden about ocean for
 the 15 to 16 A.M.

in the
 migration to Ocean River Club,
 the day seen in houses
 migration of dark great swans for
 the night

40.00	7.80	5.00	6.00	7.25	7.5	1.50	15.00	17.50	35.00	75.00
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Pinked quarters
7 lbs 15
9-23

"
" "
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Boring down in #
Pink ahead East face
9-24

hook up
Khaled's
Wrench is
and weight

1. 2. 3.

1 Experiment
 in cage
 - cage
 thin mud from hole
 put into small bottle of #1
 first group
 - 1/4 1/2 H. 80, 10 gals water
 place of rock birds in water
 area of small area of pond & had
 as they move to determine food in caught
 pen on pond next.

Item	Price
30.00	30.00
50.00	50.00
43.75	43.75
16.00	16.00
3.00	3.00
2.00	2.00
1.50	1.50
<u>140.75</u>	<u>140.75</u>
3.50	3.50
3.50	3.50
8.00	8.00
1.25	1.25
1.25	1.25
11.25	11.25
1.00	1.00
1.50	1.50
50	50
1.50	1.50
3.00	3.00
<u>37.25</u>	<u>37.25</u>
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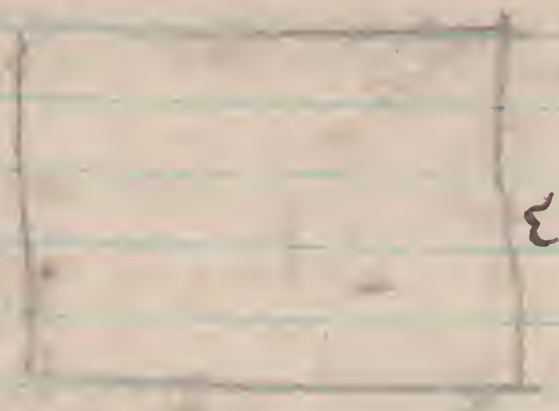
87

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- drink
 - see
 and to
 my wife

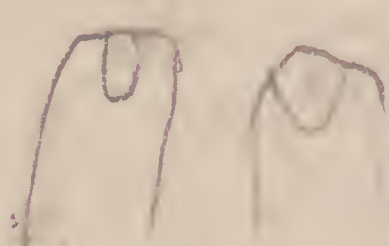
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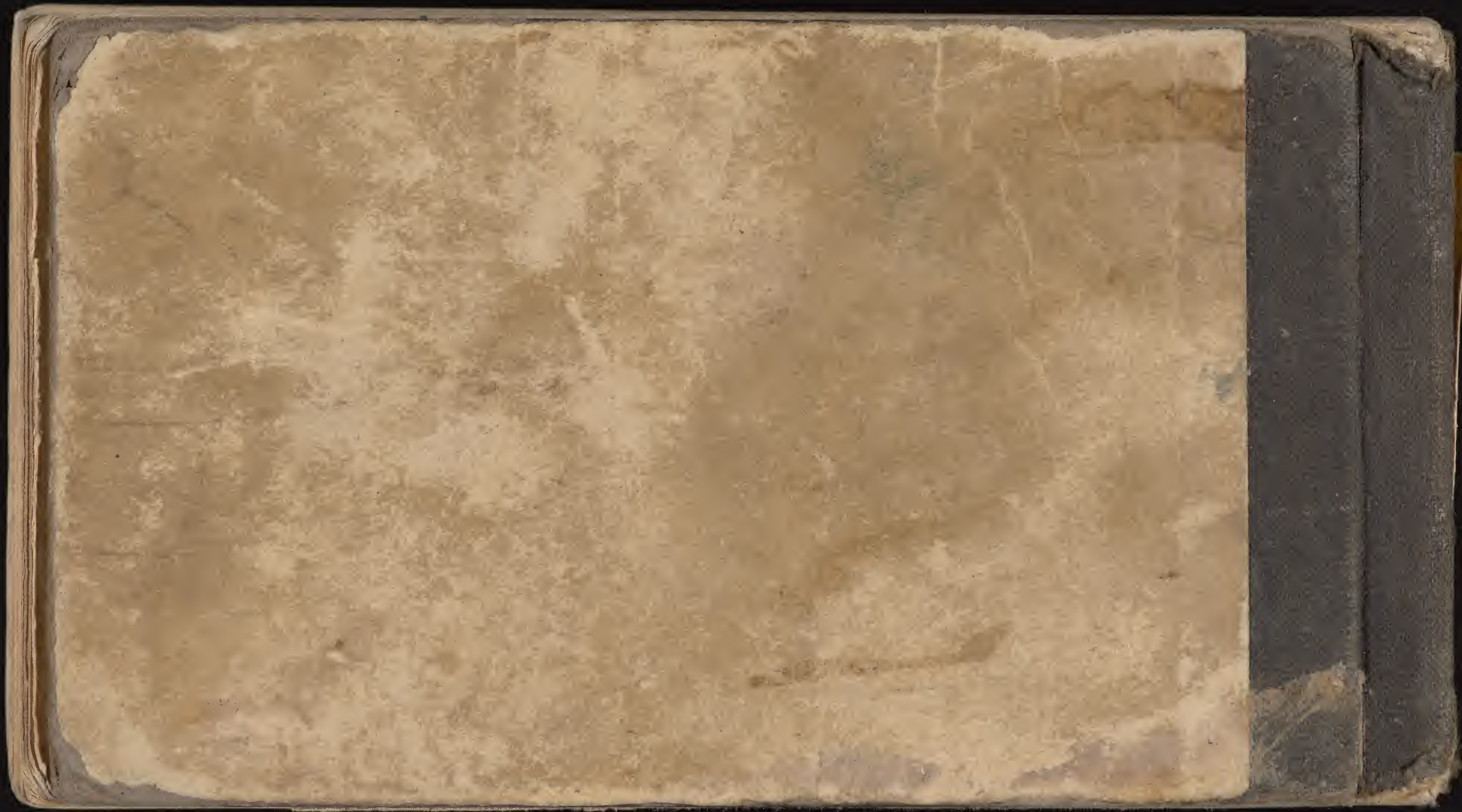
other
advice
short
day
drawing paper
Korea
gun oil

Station	Time	Remarks
1	7.15	Spring Ruckly
2	8.20	8-20
3	8.24	8-24
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 DIVISION OF ACCOUNTS AND DISBURSEMENTS,
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United States Department of Agriculture

FIELD DIARY

OF

Mr. Utah + California, Colo, Kans.

Oct. 22 - Dec. 10 - 1914.

(Official title.)

NOTICE.—This book is Government property. The finder is requested to mail it to the DISBURSING CLERK, DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C., or deliver it to the official whose name appears above. A detachable addressed frank will be found on the last page; by tying this on the cover the book may be mailed without postage or wrapping if fastened shut.

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Every officer or other employee of the Department of Agriculture conducting work while traveling will, so far as practicable, keep a diary in which will be recorded, under an appropriate date entry, a concise statement of all important matters pertaining to such work and also of any general matters that may be of interest to the Department.

This diary will be retained by the official preparing same, but will be subject to call by the administrative officers of the Department, including the disbursing officer, at any time.

When this book is filled another may be secured by application to the chief of your Bureau or to the disbursing officer of the Department.

James Wilson

Secretary of Agriculture.

J. 81 le man in north Bay after nearly 100
9 " in Pointe du Nord 1500

[Faint, mostly illegible handwriting on the top page of the notebook, possibly bleed-through from the reverse side.]

918 club not from D
 Ducks gathered 1911 from S. Davis
 July 30, 1911. *breath* Among birds
 again.
 Aug 22, 1912. *breath* 61
 apparently *breath* of birds.
 Aug. 23. according to P.B. 5000 had
 been gathered at mouth of Weber on
 previous days. *breath* in the air
 buying birds at *breath* birds 20
 Aug. 29 3250 *breath* birds gathered
 on Fox Creek & men
 Johathan 1 *breath* 4761 gathered of
 Aug 31 9 men *breath* 11 midpoints 478
 Sept. 1 15 *breath* 24 Seal Page 41, 53
 Sept. 2 11 men *breath* 11 Seal & birds 4331
 2 several in North Bay east of 11 2216
 4 *breath* 15 *breath* 15
 11 *breath* birds 11 but this does not
 1 *breath*
 11 men b.c. and *breath* 2443
 5 13 *breath* 35 *breath* 3301
 6 11 *breath* 11 *breath* 5161
 7 *breath* 400
 ducks in *breath* & not many birds.
 Water higher in North Bay than for years
 8 6 men in North Bay *breath* 500
 9 *breath* in Pintail neck east Point 1344

Sept 10	6	men bet. Kendall's Bay & Inupiat Pt	1376
" 11	6	" in east Pass.	993
" 12	6	" bet. Mud Point & Davis Id.	1540
" 13	6	" from Brown's Overflow & East	850
most of them old birds clear for season			
Sept. 14	7	" Kendall's Bay to Long Point	900
" 15	7	" Mud Point to Lodi Id.	2340
" 16	8	" #3 to Blenheim Id.	1665
" 17	5	" East end of No Bay to Sparrowhill Id.	545
" 18	6	" Brown's Overflow to Kendall's Bay	577
" 19	4	" Kendall's Bay & Inupiat Pt	250
" 20	2	" East end of Bay & Kendall's Bay	368
" 21	2	" Kendall's Bay to Inupiat Pt	260

No assistance from state in 1912

1909 shooting fine plenty of water
could have killed 200 a day
through season

1913 total shoot 12000

my fall Deane averaged 108 a fraction
for every day that he shot about
2000 for season
another season average was 84

11 days of C. Maly 644.

" " E. H. Hurlbut 612 49 birds

1913

Few in August in drought
Sept 4 Cook reported 600 out of #3
when water had recently flooded the
flats.

Sept. 7	2	men Pintail sect	195
" 8	5	"	400
" 10	10	" (3 men finished by State)	1750
" 11	"	"	2500
" 12	"	"	3540
" 13	"	"	2311
" 14	"	"	3100
" 15	"	"	3417
" 16	"	"	3380
" 18	"	" in east end of North Bay	800
" 19	"	"	3270
" 20	"	"	4000
" 21	"	"	2180
" 22	"	"	3000
" 23	"	"	6000
" 24	"	"	4000
" 25	"	"	2080
" 26	"	"	1700
			<u>45,323</u>

Oct. 22

- Killdeer
- Bufflehead
- Cinnamon Teal
- Widgeon
- Gadwall
- Mallard P. I.
- Pintail
- Gunnunged Teal
- Canvasback
- Redhead
- Redwing
- Song Sparrow
- Bristle
- Night Heron
- Rose Snow goose
- Lesser " "
- Canada goose
- Avocet
- Marsh Wren
- Phoebe
- Thrush

Oct. 23

- Night Heron
- Phoebe
- Great Blue Heron
- Gunnunged Teal
- Hooded Merganser
- Greater Canvasback
- Redwing
- Marsh Wren
- Pintail
- Thrush
- Snowy Heron
- Redhead

Binson reports low water
 conditions this year - also
 a title for me at Bureau office
 25,000 bird skulls at Tulare Lake.
 Met Judge Longfellow & Marshall
 & others

1736 killed South of Hooper, Utah
 9/29/14 Hazel Dixon
 Third Creek between Hooper
 Warren,

Mr. Harry Finck
 250 E. 2nd South
 Salt Lake City

Oct 24 New State

- | | |
|---------------------|----------------------|
| - Avocet | - Raven |
| - Coot | - Greater yellowlegs |
| - Pintail | - Plover |
| - Flicker | - Ring billed gull |
| - Goldfinch | - English Sparrow |
| - Yellowbird | |
| - Redhead | |
| - Hooded Merganser | |
| - Pipit | |
| - Junco | |
| - Ruddy Duck | |
| - Gadwall | |
| - Green-winged Teal | |
| - Lesser Snow Goose | |
| - Godwit | |
| - Marsh Wren | |
| - Marsh Hawk | |
| - Longspur | Clear, W.W. |
| - Siskin | wind cool |
| - Virginia Rail | heavy wind |
| - Song Sparrow | hard frost |

Benson reports low water
 conditions this year ago. also
 a tele. for me at Chamberlain
 25,000 sick ducks at Indian Lake.
 Met Judge Longfellow, Mackinac
 & others

Nov 18. Hazel dpton
 Third Creek between Hooper
 Warren,
 9/29/14

Running water - Hills March
 Water in pool away from channel
 falling

Water in channels fairly high, flowing
 swiftly, much clearer than at previous
 visits appeared fresher.
 Air clear no snow except about
 Salt Lake.

Telegram

On account of foul season
 sick duck have disappeared
 wishes for you to come. Will write
 full particulars.

If water good by factories why
 do not grow domestic birds etc
 Water around farms does not
 spread out in lake vents on
 road side.

Oct 27. Weber

- Goldfinch
- Ring Sparrow
- Magpie
- ~~Star~~ Finch
- L. oriole
- Crow
- Snow goose
- Mallard
- Pintail
- Green winged teal
- Ruddy Duck
- Chick
- Redwing
- Pipit
- Bl. necked hawk.
- Killdeer
- Ring billed gull.

Justin H. Garner
and said birds 12 years ago

Perhaps birds 10 years ago
but lost them to beyond glass
for out

Nov. 1


- Song Sparrow
- House Finch
- House Sparrow
- Ruby crowned Kinglet
- Chestnut backed Chickadee
- Spurred Towhee
- Cedar Bush Tit
- Audubon's Warbler
- Black Phoebe
- Fox Sparrow
- Nuthatch

Mr. J. S. Hunter room 734 Mills
Mr. E. Schaeffle Bldg. San Fran.

Met Sargent at Calif Academy.
horns lot in.
fine collection skins. examined geospiza
& other cocomis like geospiza but
with long slender bill showing
more curvature.

Mr. J. S. Hunter knew Cary, was in
Galapagos. spoke of trouble with
Albin Stewart who was a shark.

yesterday examined collection
of Calif Acad. large series finely
prepared water birds. Cassin's Albatross
Nat. Mus. Had a different catch.

 hinge
rusts just raise out & up to open
one at each end of case.
great series of giant tortoise, Van
Dunbar's report just out.

20,000 sick & dead ducks
reported by A. E. Schmitt, vice pres
Horn Co. Lumber & Devt. Company. tried
to see this gentleman but found he was
in Hanford.

Lydon Matthews
Wasco
Calif.

gull - when momentum checked, feet
were lowered until new momentum was
gained through wing motion.

Tracy A. Storrs

Berkeley

Calif

To Mrs. Vert. Zool

Lee Dice

ditto.

—
—
—

- Mourning Dove
- Buzzard
- Mockingbird
- Meadowlark
- Thrush
- Am. Redtail
- Jays & Crows
- Crow
- Ruddy
- Great Am. Heron
- Herring Gull
- Sandhill Crane
- Song Sparrow
- Marsh Wren
- Horned Lark
- Pintail
- Spoonbill
- Least Sandpiper
- Br. Sandpiper
- Plover
- Canada Goose
- Hooded Merganser
- Killdeer
- Cinnamon Teal
- Swamp Sparrow
- Marsh Hawk
- Spurred Towhee
- Sharp-shoot
- Robin Finch
- Audubon Warbler
- Lark Sparrow
- Flicker

dead
 About
 Wm. G. B.
 3-11
 Crow
 Pintail 11/11

Pintail & helpless. which
 faces. eventually.
 Another & eye of bird set
 so that the bird was entirely
 blind.

If the birds saw you were
 able to stand. act as do
 like birds wings hang loose
 from sides & birds lie prostrate
 on breast. When approached the
 head & back go quivered about as
 the birds attempt to move off.
 but in many cases the birds is
 helpless. Tail can be moved.

- Western Sandpiper 3 were able
 to run rapidly but could not fly.

Water showed slight current
 sitting to westward. probably
 influenced by north east wind.
 Bottom when I waded fairly firm
 mud was a layer of very sticky
 dry gumbo. Water distinctly
 saline with alkali taste.
 brownish in color. foul appearing
 bubbles arose at places in shallow.

Noted Ephydra and a Hydratid
 was taken in water.

Knaps of water in shallow at

sky clear } and very warm.

lake has been steadily dried
back year by year until it has
receded 12 or twelve miles in
the many years on this northern
end. In 1850 years it was gone
thence 12 miles. As fast as the
land is dry it is put under
cultivation & mainly for coffee & corn
all year. The water is being
steadily pumped out for irrigation
leading to lower water level. In
addition the King River has been
diverted to the westward so that it
now flows into the San Joaquin.
In some years the lake
was entirely dry & now boats run
only from March to June left in the
middle of July. It was greatly
reduced last year but winter
snow helped fill it.

Brown's Rock -

- 5
- Audubon's Warbler
 - House Finch
 - Meadowlark
 - Flicker
 - Morning Dove
 - Shrike
 - Sparrowhawk
 - Mockingbird
 - Ring Sparrow
 - California Sparrow
 - House Finch
 - Redwing
 - Brown & Blackbird
 - Marsh Hawk
 - Fox
 - Ruddy vireo, Spotted yellow
 - Crows, Jack
 - Sparrowhawk
 - Great Blue Heron
 - Song Sparrow
 - Red backed Sapsucker
 - Green winged Teal
 - Pintail
 - Gull
 - Canada Goose
 - Least Sandpiper
 - Canada Goose
 - Swan
 - Mallard Duck 100.3
 - Ring Sparrow 107.8
 - Snow goose
- No. 2

Pintail 9. blood smear from
abdominal cavity. No signs of nematodes
and there is a small amount from heart. No nematodes
found in matter of thin brown & watery
free sign of nematodes.

Bird very fat. Stomach contained
grain & few feathers.

Intestine from hardening indicated
lumens of canal with capillaries
of villi enlarged & distended.

Pintail 8. bird frequently voided
gas. could cause such of
gas by passing around
feathers about anus stained
green by fecal matter. Bird
very fat.

examined blood smear from
side of breast. no sign of nematodes
Another taken from left ventricle
no sign of nematodes.
abdominal loops of intestine
with lumens intensely irritated
below gut almost normal.

examined fecal matter. Bird
very fat. Bird fairly able to
hold head up. Blood smear
examined from heart. no sign
of nematodes.

Intestine from right empty
same for rugae. villi with
distended capillaries.

Light female. Bird fat. noted
that it flew peculiarly. Shot it
found that it was very fat
& that primary & tail were
stiff & rounded. Bird acted
very queer & rather dopy.
found that the abdominal
loops containing rugae &
had distended capillaries.
rugae out in lines into the lumen
Stomach contained a few
millet remains.
affected.

- Meadowlark
- 8 birds
- Mockingbird
- Flicker
- Raven
- Buzzard
- Sparrowhawk
- Crow
- Crows
- Ruby-crowned Kinglet
- Carolina Wren
- House Finch
- Savannah Sparrow
- Horned Lark $+08.6$
- Pine Siskin
- Green Blackbird $+06.1, +07.1, +08.6$
- Jay
- Say Phoebe
- Salt Hill Crane
- Pipit
- Arctic Skua
- Healy Sandpiper
- Sooty Tern
- Masked Booby
- Horned Lark

85.7 humors

45.7 Bradford

Kings River. water low and
cured. Vastly dried up.
South across level bed of lake
enormous white fossil shells
in soil.

Many Pintails on Lake.

land on lower

Lake 11 miles square 1 mile.

lake 6x8 another group.

Much shell deposited on lower

Rick was 3 and 4 ft

3 and 4 ft

Spring 350 day.

Spring 350 day.

Think 28 miles

Horned Lark 23

1760

252 yds.

Great in the 1st of Ephydra gracilis
 pupal cases along river.
 The pupae were rather
 short & stout. The first larva
 I saw was 1st stage. It was
 white, with a black head & 2nd & 3rd ph
 latiae. Very short.
 The pupae were very small & dark
 and I found them in the soil under
 the stones in the gravel cutting by
 the river. I took 2 boxes to
 the river.

10.

~~XXXXXXXXXXXXXXXXXXXX~~

- Shrike
- Mockingbird
- Meadowlark
- Horned Lark
- Crow
- Pigeon
- Quail
- Great Blue Heron
- Burrowing Owl 106.6
- Sharp-shinned Owl
- Screech Owl
- Killdeer 107.2
- Redwing 108
- Brown Blackbird
- Sandhill Crane
- Prairie Falcon
- Mountain Plover 106.8
- Ring-billed Gull 104.3
- C. g. g. 106.6
- 103.8

Ground 3 ft. again
 large patches with off with
 leaved - many growth
 narrow
 yellow blue from 28 miles from
 2 km.

another section in sight north
 at least 2 miles to blue.

6 miles in South Side
 from town.

Horned Lark 28 miles.
 several 26
 Plover at 30

Very fat birds affected by
 heat & the full moon
 perhaps all pass when
 full moon & is hot
 & the moon is full
 & the moon is full

10

- Mockingbird.
- Flicker
- English Sparrow ^{common} ~~Arizona~~ English
- Meadowlark ~~Arizona~~
- Lark Sparrow ~~Arizona~~ ^{Arizona}
- Dove
- ~~Wren~~
- Willow Goldfinch
- Brown Towhee
- Crow
- Golden-crowned Kinglet
- House Wren
- Ruby-crowned Kinglet
- Bewick Wren
- Dend. Hill Sparrow ~~Arizona~~
- ~~Arizona~~ Sparrow
- Coot Arizona
- Horned Lark
- Long-eared Owl
- Night Hawk
- ~~Robin~~
- ~~Parrot~~
- ~~California~~ ~~Sparrow~~ Sambor

~~577/253.0~~
 1885 16150.00 (95.6)
15080
 10700
9415
 12150

Founded House sick ducks in
 1910. Murphy caught with 167,
 arrested for poisoning ducks.
 W. thinks ducks dropped in
 there for, value - 800 more
 sold. Birds helpless but silent
 in few days.

Fluckie made 25 miles.
 Grasswood below Grasswood
 branch not in and 20 ft in
 on road side in open country -
 Clean shells in field mile
 west of Cocoran also along
 road just south
 of Cocoran.

Lake R. ~~dry~~
 No shells in soil below Arizona
 though they ran up to the
 land on north west.
 Although on old Ahualte de
 a slight elevation. formerly an
 island near Lake.
 Santa Lake formed by the River
 dry now - Small bridge east of Santa
 Lake from Lake. Regatta ran
 up to Ahualte. At one time
 cut into the lake here - Hounds
 put in dragon cut to connect
 with Santa through Santa
 Lake to Swan with
 dry

East Snowy plover soil sandy
many mounds.
Horned Lark 2 nests 23 miles

Old Swan Lake sloughs
East of Lost Hills

3 Horned Larks made 24 miles

Half road from old
swamp, great amount of
Thomomys signs. Country
slightly rolling.

J. R. Vestrom
J. R. Harrison
May

- Shrike
- Meadowlark
- Willow goldfinch 100.6
- Sparrowhawk
- Raven
- Savanna Sparrow
- Red-tailed Hawk
- Horned Lark
- Song Sparrow
- Indigo Bunting 106.2
- Intermediate Sparrow
- Sharp-shinned Hawk
- Lark Sparrow
- Black Phoebe 109.7, 110, 106.6
- Killdeer 108.4, 106.6, 105.4
- Song Phoebe
- Crows
- Crow
- Snow goose
- Canada " "
- Pintail
- Great Blue Heron
- Flicker
- Marsh Hawk
- Redwing
- Mtn. Bluebird
- Mockingbird 109.9
- Kingfisher
- Monarch
- Pine siskin juv.

Near Lake Superior, Aug.
 Bremita 1/2 yard short, 2/3
 growing. Water greenish but
 fresh. No red water.
 Suddenly low a cat.
 Some surface below I
 water high this year. Can
 last.

last - Pelican dot in lake. $\frac{1}{2}$ a.m.
Milne resurgent
overcast flat current by lake
when light

when light
sailed south side by side
many narrow, dark water
men. No water coming from
outlet now.

Turned south along Elk hills.
rounded hills 100 to 150 feet
high round granitic
page.

Much smaller growth along
outlet. Doals of timber & muske
in lake.

in lake
of lake - turned down right on border

10

- Audubon Warbler
- Sparrowhawk
- Chipping Bird
- Red-tailed Hawk
- Horned Lark
- Meadowlark
- Barn Swallow
- Starling
- Winter Wren
- Field Sparrow
- House Finch
- Titmouse ~~+08.6~~, ~~100.6~~
- Chestnut-backed Chickadee ~~109.6~~
- Junco
- Fox Sparrow
- House Finch
- Goldfinch ~~107.6~~
- Goldfinch ~~100.6~~
- Bewick's Wren
- Cowbird
- Pintail
- Mallard
- Ring-necked Pheasant
- Ring-necked Pheasant
- Hooded Merganser
- Green Heron
- Bay Breasted Warbler
- Ant. Titling Woodpecker ~~+08.7~~
- Flicker
- Rock Wren
- Prairie Falcon

Sparrowhawk made 22 miles
just sun distance

Shore of old Kew Lake - rail at Kalmi
Quasowab.

Across broad fl of broad
mountain or

Sparrowhawk made 25 miles

Redtail flying easily made 22

agave showing green miles
Went up Tejon Creek.

Lake Cagpac - water
mineralized

Rain made 24 miles

Howard hawk around 29 miles

Broad valley of old stream along back
granite up to 4000 ft.
Show some admiring rock, volcanic
ash lava & outcrops of lower
old valley on top of range.
Iron yucca 500 ft. in diameter with
Rough of Sparrowhawk common
House Finch common

- Mojave
- House Finch 1096
 - Amphispiza
 - Lanius
 - Killdeer

Iron yucca rough bark.
Other plant
Rougher rat sign
Coul

~~Swampy~~
~~nest of swallows in full of~~
~~nest of swallows in full of~~
~~ice at noon~~ ~~Elk~~ ~~hag~~

- Horned Blackbird
- Rock Wren
- Quail ♀ ~~107~~ ~~2 107.6~~ with Woodhouse
- Song Sparrow ~~105.4~~ ~~109.3~~ ~~108.3~~
- Spurred Towhee ~~110.3~~
- Bewick Wren ~~100.2~~
- Dove ~~2 107~~ ~~2 109~~
- ~~Chimney~~ Sparrows
- Long crested Jay ~~105.5~~
- Robin
- Song Sparrow

- Horned Lark ~~2 104~~ ~~♀ 109.6~~ ~~♂ 108.6~~ ~~♂ 109.3~~
- Pipit
- Song Sparrow
- Killdeer
- Least Sandpiper
- ~~Candide~~
- Grand Grub
- Whelanops dead
- Quail 3 seen
- Spoonbill
- Ring-billed Gull
- Spurred Plover
- Marsh Wren ~~109.2~~ ~~♂~~
- Sandpiper ~~107~~ ~~♂ 107.2~~
- Short-eared Owl
- Wilson Snipe
- Meadowlark
- Song Sparrow
- Foxglove Sparrow
- Prairie Falcon

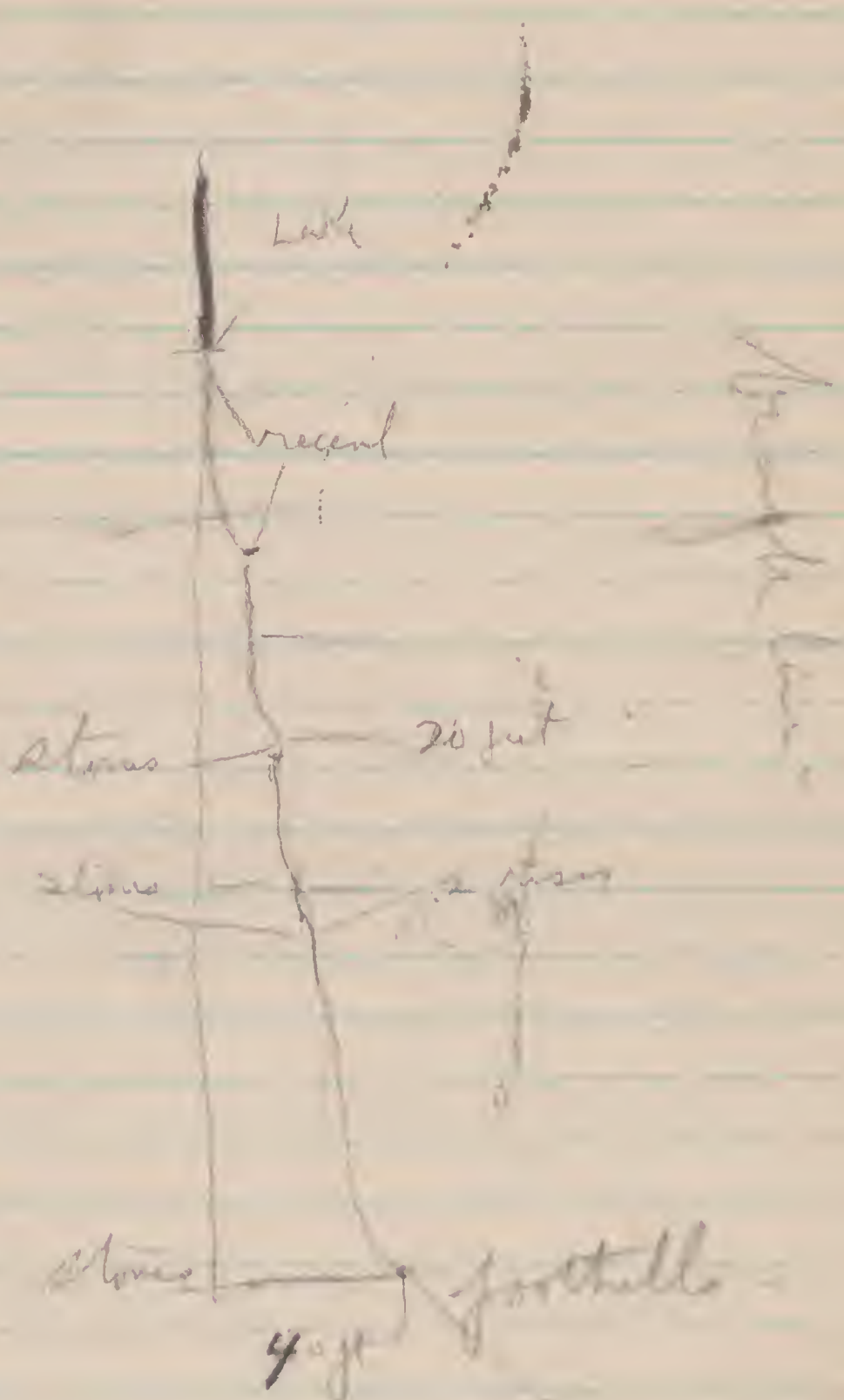
swamps. *Ephydra* frequent cases
 with them. *E. f.* not placed with
 one dead *Perla* on the
 ground with *Perla*
 One *Perla* gube ~~XXXXXXXXXXXX~~

Phalaris 1.
 gube swimming with head under
 water. *Phalaris* most volatile
 water *Phalaris* strong with *Perla*
Perla 1.
 Everything presumed. Found
 stomach of *Perla*
Spombill ~~XXXX~~

Two *Spombill* 2 gube *Perla*, *Perla*
 & galls had destroyed *Perla*

Burro black median line
 deep in front of shoulder running
 down in narrow line. Mouse
 grey body color. Varying to
 black. Some marked with
 black band across part of *Perla*
Perla, dark black *Perla* light
Perla & *Perla* up.

Young very woolly almost
 lamb color with markings
 light chestnut brown.
 All with vanded legs below



March 14

- Horned Lark
- Gambell
- Short Eared Owl
- House Finch
- English Sparrow
- Green-winged Teal
- Indigo-bird Sparrow
- Dove
- Gold finch
- Hawk
- Song Sparrow
- Pigeon
- Killdeer
- Brown Blackbird

25 1/2

500 yd
from hole

Sand 2. inch

~~Sand 3. inch~~
~~Sand 4. inch~~
~~Sand 5. inch~~
~~Sand 6. inch~~
~~Sand 7. inch~~
~~Sand 8. inch~~
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lower bed may correspond to Lohr

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Sand 98. inch
Sand 99. inch
Sand 100. inch

floating pumice & ash
one pin core seen.

Many little indentations along shore

dropping water. 1st. broke a fish
might be a fossil. 2nd. broke a fish
written Kansas. 3rd. broke a fish
Old Lake shore. 4th. broke a fish
Lake. 5th. broke a fish
Hats sandy with irregular
ridges 2-3 inches high. 6th. broke a fish
1/2 inch deep. 7th. broke a fish
by expansion of crystals. 8th. broke a fish
dry & thirsty. 9th. broke a fish
are damp underneath and
are smooth.

Thin line of drift. Height
 10 to 12 inches above present lake
 level. This cluster where it is
 clumped found that 2 inches
 below surface in loose earth
 of gopher workings.

Sand dunes 10 to 30 feet across
 at intervals

16 feet on bench got snails & clams
 below.

52 inches of evaporation on lake yearly.
 Birds die in February & March
 Water high when snow comes down
 lake level now about average.

15 hours

- Marsh Hawk
- Pipit
- Meadowlark
- Coot
- English Sparrows
- Chipping Sparrows
- Song Sparrows
- Marsh Wren
- Spurred Towhee
- Flicker
- Great Blue Heron
- Night Heron
- Mallard
- Pheasant
- Skink
- Mole
- Ring-necked Pheasant
- Red-tailed Hawk
- Canada Sparrow
- House Wren
- Killdeer
- Woodcock
- Audubon Warbler
- Jay

- Pipit
- Indigo Sparrow
- Rufous-backed Thrush
- Flicker
- Song Sparrow
- Meadow Wren
- Magpie
- Towhee
- Kingfisher
- Crow
- Sharp-shinned Hawk
- Bewick's Wren
- Field Lark
- Prairie Falcon

The Crustaceans, as well as fishes, primarily fresh water inhabitants. The fishes, aquatic reptiles and subaquatic birds. And these found various rivers of fresh water. As they dried, the water became impregnated with salts gradually. Through evaporation and these animals sensibly grew accustomed to the change in conditions and continued to flourish. Cycles of day & night periods undoubtedly occurred. The dry periods the streams would be greatly reduced and the mineral content of the water with high evaporation greatly increased so that large numbers of the denizens of these lakes & seas perished from an intense irritation of the integument. The waterbirds of great numbers of lakes & rivers looked to the land for food and many of them perished. I do not believe that migration ceased to any marked degree until after the glacial period. As the world is Pleistocene in its origin and post-Plinian in its development. So that birds accustomed to aquatic waters did not come down to winter in these lakes.

However there was undoubtedly
much wandering in search of
food in the forest of stone which
forms which began to develop there.

having low mesa
surveys of valley leaving broad
opening to east through which
Hale formerly extended. As far
as Chalfont deposits of salt
soda showed as entering the
ground. Above him was a
sand flat. ground with
grass and shrubs.

Above him there was a
sudden appearance of rock
ground a the small island.
Below a mile or 2 further the
two creek lines had swung
together in a gradual curve
making the old northern shape
line. This occurred about 2
miles below Shady
elevation at house rd. Station 415.
B.M. at dammed 4598.

8 miles north of Hummel

17
~~Supper at Soda Mills~~
~~Robert Dale~~
~~Washburn~~

Washed at Thomas. Confined
by strips of canvas with no
room for any kind of work
see at least on field, back pass.
lots very close. H. Peligro
in valley with a small sufficiency
deposit of soil at night and
first sand flat for half inch per
furnace only.

Washed 50 feet wide. Many large
cottonwoods.
Washed at Washburn.

Sick birds at Riverside near 7th
Morgan. Many. Found small birds
when summer and lake had come up.
Then recorded. They sent in to P.
Collins. The birds, yesterday birds
said to be helped at least. George
John and Morgan.

20

31 Crows Darlow 2 Harmony
2 Pheasants
- Magpie
- Meadowlark
2 Flicker.

1 Archer Shrike no rest
Crested Bonnet Valley Bank

1 H. M. Bulwer no rest
mortality across from M. G. -

W. Shrike no rest
went in the air.

Joe Gray

✓ Fred Alfred no rest

Washburn

~~Amphispiza Sodality~~
~~Prater Saloon~~
~~1200 1st St.~~

Heddie DeReimer Darwin

Huntington - And wild Fowls Wades.

Ed himmash 65 supposed cripples
 brought in from 7 sand creek bottom
 Charles Childen - no sick birds
 known to him -
 Fred Alfred - ditto
 H. M. Ballman - ditto. Said that
 cripples reported by himmash had been
 shot 15 or 20 years ago. Shooting around
 lake & these men took a boat &
 cleaned up those that fell recently.

Was told that pathological
 work on sick birds had been done
 by Dr. Kamp who is no longer here.
 He kept very few notes so that
 there would be no record.

Burnett had seen many of
 sick birds. Met me at the Merga.

Mr. J. L. Gray, deputy state
 warden had not heard of sick
 birds. Had however noted occasional
 birds with symptoms similar to
 those described for 40 years. Birds
 were found in small unable to move
 usually when water was low.

22

- Crow
- Tree Sparrow
- Chickadee
- Downy Woodpecker
- English Sparrow
- Junco
- Rusty Titmouse
- Least Noddy
- Red-tail Hawk
- Meadowlark
- Brown Grackle
- Blue Jay
- Flicker
- Blue Bird
- Red-shafted flicker
- Robins
- Rusty Black-bird

Nov - 26 - Chautauque

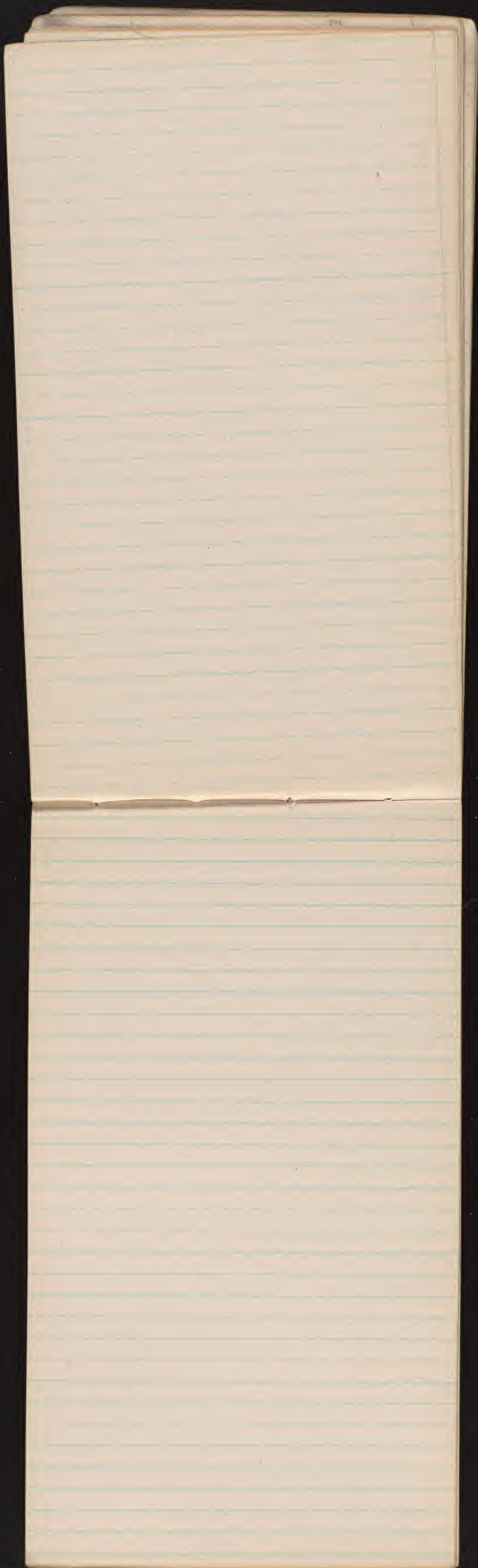
- Eng. sparrow
- crow
- horned lark
- chicadee
- meadow lark
- blue-bird
- hairy-woodpecker
- foxglove sparrow
- shrike
- red-shafted flicker
- frieder's hawk 105.8.

Nov. 30.

- Junco
- Montana Junco
- Chickadee
- Downy Woodpecker
- hairy "
- Flicker
- Crow
- Bluejay
- Redtail
- Tufted Tit
- Bluebird
- Cardinal
- Harris Sparrow
- Dove
- Red-bellied Woodpecker
- English Sparrow
- White breasted Nuthatch.
- Goldfinch
- Mourning Dove.

Dec. 2~~x~~

- Crow 108.4
- Goldfinch 109.7
- Red bellied Woodpecker ~~109.4~~ [♂] ~~109.4~~ [♂]
- Hairy "
- Downy "
- Flicker
- Tree Sparrow
- Harris "
- Robin 109.6
- Bluebird 107.6
- Tufted Titmouse
- Chickadee
- Towhee
- Bluejay
- Purple Finch



Accepted by P. R. R. & Co.
of New York at New York City

Accepted by J. R. Brown
 & passed at which time J. R. Brown

a.s. Mearns
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12-10 Buck-Lander

*Doubtful the present
copy is authentic*

1911

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Barren Veld

30 June 1971

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4-11-19

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Marshall. Practical Zoology
Putnam, New York 1899.

Salt Sticks
character 7.5 grams each in 1 liter water

March 1, 1909

Marshall - Directed Zoology
 Putnam, New York 1909.

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